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Principles and Problems of Shoreline Law

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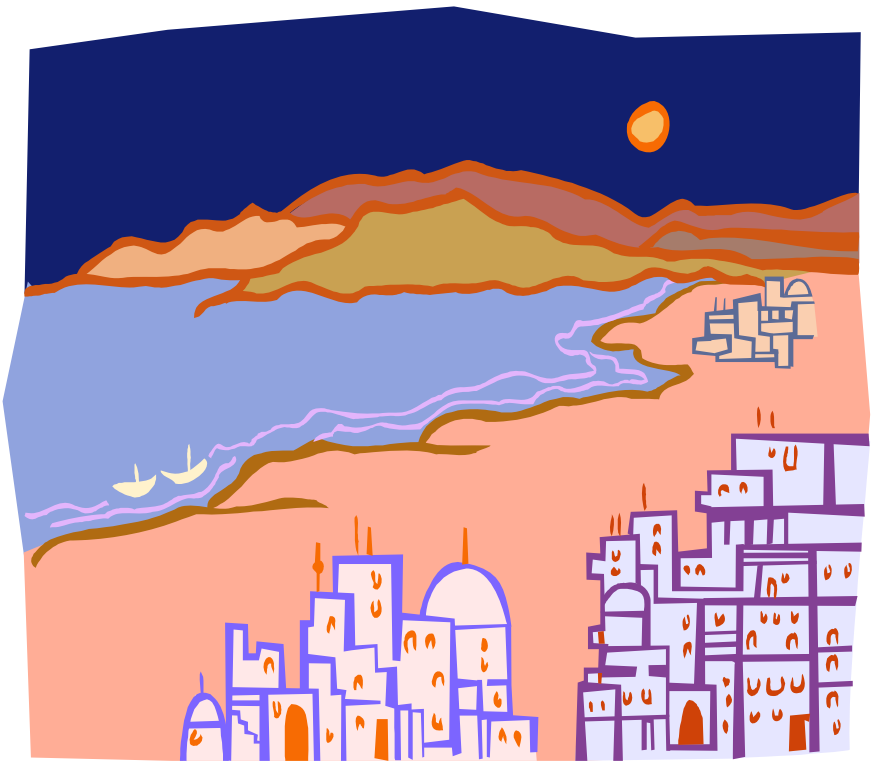

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Abstract

This paper posits nine key principles of property law relevant to lands bounded by tidal waters. They are core elements of the ‘doctrine of accretion’, an ancient English common law doctrine which applies to natural boundaries between land and water.

The term ‘shoreline law’ has been adopted to encapsulate those elements of the doctrine which deal with boundaries formed by tidal waters, especially the sea.

These principles of shoreline law determine the location of boundaries formed by gradually moving tidal water bodies and govern the ownership of land affected by the natural processes of sediment transport and changes in water level.

This paper provides an overview of the context in which shoreline law operates by examining the relevance of global climate change, outlining the complex legal framework of surviving common law and State and Commonwealth statute law in which it is situated, and by considering other ecological, social and economic impacts likely to affect the Australian east coast.

The protection of private property is thus placed in context as only one of a range of important competing priorities for public policy responses and public funding.

The implications of a small sample of other legal considerations relevant to the loss of coastal land due to higher seas and greater coastal erosion are also discussed.

Several problems with the application of current shoreline law under contemporary circumstances are identified and potential remedies for these are postulated.

The paper asserts that landowners' attempts to use a 'storm of litigation' to protect their properties from climate impacts, or to sue for damages and loss, may be unsuccessful, unhelpful and a dangerous distraction for local and state government.

A narrow focus on liability is not supported and the development of a sophisticated integrated response to the impacts of climate change, which includes, but is not limited to law, is advocated.

The paper concludes by arguing that, while current shoreline law has much to offer in guiding legislators and policymakers, substantial further development of shoreline law, by the enactment of new statutes, is both necessary and desirable if the predicted impacts of higher sea levels and increased storminess on coastal environments, land and property are to be successfully addressed.

A suite of policy and legal responses is posited as being necessary to respond to these challenges.

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 principles of property law to rising sea levels were further developed in a presentation for a postgraduate student conference run by ACCARNSI in Sydney in October 2009.

Since that time further research has allowed me to clarify and finetune both the order and substance of the principles presented.
Thus the principles presented below are a revised version of those first presented.

This paper refers to law in NSW, Queensland & Commonwealth jurisdictions and draws on common law precedent decisions made by many courts in England, Australia, the United States and elsewhere.

It is a bold attempt to state plainly the common law principles that underpin those specific elements of property law which relate to boundaries formed by water.

These legal principles, which apply to land bounded by either tidal and non-tidal waters, constitute the core of the English common law doctrine of accretion, a long-standing legal framework which governs natural boundaries and their movements.

While law relating to rivers and other non-tidal waters is known as 'riparian law',[1] I have adopted the term 'shoreline law' to describe those specific elements of the doctrine of accretion which apply to boundaries formed by tidal waters.

Though a number of conventional legal theories have informed the development and application of shoreline law,[2] and non-conventional philosophies might be marshalled to critique it,[3] the relevance of these theories are not explored in this paper. Rather, the principles below are stated from a positivist's perspective of the law 'as it is'.[4]

Although the common law has been modified or repealed by statute in some states, some of the principles of shoreline law have continued as provisions of the relevant legislation.[5] Thus, as the footnotes show, many of these principles of shoreline law have been developed and refined by both the courts and relevant legislatures.

These principles of shoreline law are however, not the only relevant elements of law which apply when considering the impact of rising seas and greater coastal erosion on private properties on the coast. Though it is by no means an exhaustive list, I discuss five other legal considerations which apply.

[1] E.g. by Sandford D Clark and Ian A Renard, in 'The Riparian Doctrine and Australian Legislation' (1969) 7 *Melbourne University Law Review* 475 -506.
[2] Specifically, historical natural law theory, modernism, liberalism and positivism: see Marett Leiboff and Mark Thomas *Legal Theories in principle* (2004), at 8-9.
[3] Such as feminism, post-modernism or deep ecology.
[4] Marett Leiboff and Mark Thomas *Legal Theories in principle* (2004) at 139.
[5] See for example s.9(b) of the *Land Act 1994* (Qld), discussed in Principle 1 below.

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.

2/ Context

Before detailing the principles of shoreline law, I propose in this section to briefly outline several factors which provide important elements of context for the current and future application of shoreline law.

The first factor is global climate change, since one of the primary effects forecast is rising global sea levels,[6] and increases in sea levels are already being measured around the world[7] and in Australia.[8]

Because higher sea levels, increased storminess and greater coastal erosion are directly affecting the interface between land and water, these impacts make shoreline law extremely relevant.

A second factor providing a key context for shoreline law is the existing legal and policy framework governing land titles and coastal management. This framework is complex because it is multi-layered, administered and operated by local, state and Commonwealth governments, and subject to on-going change.

Though it is impossible to catalogue all the other factors providing context for shoreline law, I attempt in a third sub-section to consider other wider contexts, which place private property impacts into an appropriate perspective, beyond simply human interests. I do this by briefly considering some of the other likely ecological, social and economic impacts of higher sea levels and increased coastal erosion.

2.1. Global climate change provides an especially relevant context

The doctrine of accretion and the principles of shoreline law relate to and operate within a dynamic physical environment, the interface between land and tidal waters.[9]

They apply to land bounded by tidal waters and govern the location of the boundary between land and water, when the location of the bounding water body changes.[10]

These principles might have remained as obscure, arcane elements of property law[11] of little interest to most lawyers and policy makers were it not for scientific predictions

[6] See Intergovernmental Panel on Climate Change (IPCC) *Policymakers' Summary of the Potential Impacts of Climate Change, Report from Working Group II to IPCC* (1990) at 4, 24.

[7] J Church and N White 'A 20th Century acceleration in global sea-level rise' *Geophysical Research Letters* (2006) 33:L01602 cited in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 25, fn 19.

[8] See National Tidal Centre / Bureau of Meteorology *The Australian Baseline Sea-level Monitoring Project, Annual Sea-level Data Summary Report, July 2007 – June 2008* cited in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 25, fn 20.

[9] Butterworths, *Halbury's Laws of Australia,* vol 355 (at 3 March 2008) 355 Real Property, VI Other, (2) Boundaries Fences & Encroachments, (B) Boundaries for Land Abutting Water, (I) Tidal Water Boundaries, [355-14000] – [355-14010].

[10] Legal Online *The Laws of Australia,* > Real Property (at 8 March 2011) > Physical limits to land > Boundaries > Accretion and erosion [28.15.52] – [28.15.54].

[11] Ibid.

that global climate change - specifically higher sea levels[12] and greater coastal erosion[13] - will inevitably change the location of the interface between land and tidal waters, adversely affecting many coastal settlements.[14]

Higher sea levels were among the first impacts of global climate change to be identified.[15] Though early estimates of the quantum and rate of onset were small and within wide margins,[16] investigations and modelling work undertaken subsequently by climate scientists led the Intergovernmental Panel for Climate Change (IPCC) to refine its predictions of likely sea level rises.[17]

In its 2007 Assessment Report (AR4) the IPCC forecast increases in global sea level rise of between 18 and 59 cms by the year 2090,[18] but acknowledged that higher values of increase were possible due to the contribution being made by melting ice sheets,[19] which might add between 0.1m and 0.2m to these estimates.[20]

Following the 2007 AR4 a number of climate scientists expressed the view that these estimates were too conservative, and faster rates of sea level rise were likely.[21]

Further analysis of the link between higher global temperature and rising sea levels led to new projections of possible rises in sea level being presented to the Climate Change Science Congress in Copenhagen in March 2009.[22] These projections ranged from 0.75m to 1.9m by 2100, with a midrange level of 1.1m -1.2m.[23]

[12] Intergovernmental Panel on Climate Change (IPCC) *Climate Change 2007: The Physical Science Basis. Summary for Policymakers* Contribution of Working Group I to the Fourth Assessment Report of the IPCC (2007) at 5.

[13] See MA Hemer et al 'Waves and climate change on the Australian coast' *Journal of Coastal Research* (2007) SI 50, 432-7 cited in A. Barrie Pittock *Climate Change - The Science, Impacts and Solutions* (2nd ed 2009) at 93, fn45.

[14] See A. Barrie Pittock *Climate Change - The Science, Impacts and Solutions* (2nd ed 2009) Chapter 6, 'Impacts: why be concerned?', at 108-114. See also Roshanka Ranasinghe and Marcel Stive 'Rising seas and retreating coastlines' (2009) 97 *Climate Change* 465-468.

[15] E.g. Norman Myers (ed) *The Gaia Atlas of Planet Management for today's caretakers of tomorrow's world* (1st ed 1985) at 117; Ann Henderson-Sellers and Russell Blong *The Greenhouse Effect – Living in a Warmer Australia* (1989) at 84-96. See also IPCC *Policymakers' Summary of the Potential Impacts of Climate Change, Report from Working Group II to IPCC* (1990), at 4, 24, where IPCC forecast increases in sea-level of 30-50 cms by 2050 and up to 1m by 2100.

[16] The IPCC *Climate Change 2001: The Scientific Basis,* (2001) projected sea-level rises of between 9 and 88 cms by 2100, at 642.

[17] IPCC, above n17, 5.

[18] Ibid, at 11.

[19] Ibid.

[20] Ibid.

[21] E.g. Stefan Rahmstorf et al 'Recent Climate Observations Compared to projections' (2007) 316 *Science* 709; John Church et al 'Sea-level Rise' in Peter W Newton (ed) *Transitions: pathways towards sustainable urban development in Australia* (2008) at 194; James E Hansen 'Scientific reticence and sea-level rise' (2007) 2 *Environment Research Letter* 1-6; Will Steffen, *Climate Change 2009 - Faster Change & More Serious Risks* (2009).

[22] Stefan Rahmstorf 'Presentation to the Climate Change: Global Risks, Challenges and decisions Congress, Copenhagen, March 2009, cited in Australian Government *Climate Change Risks to Australia's Coast – a First Pass National Assessment* (2009) at 28, fn 28.

[23] Ibid.

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 *NSW Coastal Planning Guideline: Adapting to Sea-level Rise,* final version August 2010, at 4;
[30] Australian Government *Climate Change Risks to Australia's Coast – a First Pass National Assessment* (2009) at 28, Box 2.2.; 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.
[31] See National Tidal Centre (NTC) and Bureau of Meteorology (BOM) *The Australian Baseline Sea-level Monitoring Project, Annual Sea-level Data Summary Report July 2007 – June 2008,* (2008) cited in the Australian Government *Climate Change Risks to Australia's Coast – a First Pass National Assessment* (2009) at 25.
[32] IPCC, *Climate Change 2007: The Physical Science Basis. Summary for Policymakers* Contribution of Working Group I to the Fourth Assessment Report of the IPCC (2007) at 11-13.

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 statutes, delegated legislation and surviving common law.

Because Australian states are responsible for laws relating to property, and land in particular,[36] the state legislation which governs the registration of land titles[37] and the management of the coastal zone,[38] forms major elements of this legal framework. This framework is made more complex by the application of other state legislation.[39]

In NSW, while many of the common law principles of the doctrine of accretion have survived,[40] others have been expressly modified[41] or repealed[42] by statutes created by the NSW Parliament.

In Queensland, although some elements of the common law have been substantially repealed[43] and replaced by statute,[44] other principles of the doctrine have been

[33] *Lord v Commissioners for Sydney* (1859) 12 Moo PC 473, Sir John Coleridge at 496-8; *Cooper v Stuart* (1889] 14 App Cases 286, Lord Watson at 291-3.
[34] See for e.g. s.55N of the *Coastal Protection Act 1979* (NSW).
[35] See for e.g. s.10 of the *Land Act 1994* (Qld).
[36] Simon Evans 'Property and the Drafting of the Australian Constitution' (2001) 29(2) *Federal Law Review* 121, at 125-7.
[37] E.g. *Real Property Act 1900* (NSW) and *Land Act 1994* (Qld);
[38] *Coastal Protection Act 1979* (NSW) and *Coastal Protection and Management Act 1995* (Qld).
[39] E.g. *Environmental Planning & Assessment Act 1979* (NSW), *Sustainable Planning Act 2005* (Qld).
[40] See *Environmental Protection Authority v Eric Saunders and Leaghur Holdings PL* [1994] 6 BPR 13,655, Bannon J at 13,659.
[41] S.55N of the *Coastal Protection Act 1979* (NSW) expressly modified the doctrine of accretion.
[42] S.172(4) of the *Crown Lands Act 1989* (NSW) states that the doctrine of accretion does not and never has applied to 'non-tidal lakes in NSW.
[43] S.10 of the *Land Act 1994* (Qld) 'Land that becomes raised above high-water mark, whether gradually and imperceptibly or otherwise, because of the carrying out of works, belongs top the State and may be dealt with as unallocated State land', repeals the common law as described by the Privy Council in *Southern Centre of Theosophy Incorporated v South Australia* [1982] 1 All ER 283, at 290, according to Demack J in *Svendsen v State of Queensland* (2002) 1 Qd 216, at 232.
[44] The definition of high-water mark in Queensland by Schedule 6 of the *Land Act 1994* (Qld) as 'high-water mark at spring tides', not by the common law definition of mean high-water mark, was discussed by Demack J in *Svendsen v State of Queensland* (2002) 1 Qd R 214, at 229-230.

codified as provisions in legislation,[45] and thus continue as part of the relevant 'shoreline law'.

As well as state-based legislation, both the NSW and Queensland governments have adopted a range of policies to address the impacts of rising seas and greater coastal erosion on coastal land.[46] Some of these policies have resulted in changes to then existing legal framework,[47] adding further complexity.

An additional layer of legal complexity exists at the local government level.

In both NSW and Queensland, local government authorities are responsible for considering applications for development adjacent to the shoreline[48] and for managing coastal hazards such as coastal erosion,[49] among other duties.

While these local government authorities are responsible for operating the relevant state legislation and implementing state government policies, they are also able to create local instruments with legal effect,[50] and local policies which apply to the shoreline.[51]

While there is no Commonwealth statute directly applicable to the focus of the doctrine of accretion, the high-water mark, there is a substantial body of Commonwealth statute law which relates to the sovereignty, ownership and use of the adjacent submerged land and coastal waters, seaward of the low water mark.[52]

The Commonwealth's legal power over submerged lands, was considered by the High Court of Australia,[53] later clarified by a settlement between the Commonwealth and the state governments,[54] and finally determined by state and federal legislation.[55]

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[45] S.9.(2)(b) of the *Land Act 1994* (Qld) states that 'if the line of the high-water mark shifts over time by gradual and imperceptible degrees – boundaries of the parcel shift with the high-water mark'.

[46] NSW Government *NSW Sea-level Rise Policy Statement* (2009) at 1; NSW Government, Department of Planning *NSW Coastal Planning Guideline: Adapting to Sea-level Rise,* final version August 2010.

[47] E.g. in NSW, the *Coastal Protection and Other Legislation Amendment Act 2010* (NSW) introduced provisions s.55O *et seq.* permitting the approval of 'emergency coastal protection works'. In Queensland, ss.431NA – 431NG were inserted into the *Land Act 1994* (Qld) to create a 'stay' on changes to existing tidal boundaries and the registration of new tidal boundaries.

[48] Under the *Environmental Planning & Assessment Act 1979* (NSW), *Sustainable Planning Act 2005* (Qld).

[49] Under the *Coastal Protection Act 1979* (NSW) and *Coastal Protection and Management Act 1995* (Qld).

[50] Such as *Local Environment Plans (LEPs)* made under the *Environmental Planning & Assessment Act 1979* (NSW).

[51] E.g. Byron Shire Council has adopted a policy of 'planned retreat' through its Development Control Plan Part J. See the discussion of the role of local councils in Rachel Baird & Donald R Rothwell (eds) *Australian Coastal and Marine Law* (2011) at 60-1.

[52] E.g. *Seas and Submerged Lands Act 1973* (Cth), *Great Barrier Reef Marine Park Act 1975* (Cth), *Admiralty Act 1988* (Cth), *Coastal Waters (State Powers) Act 1989* (Cth), *Coastal Waters (State Title) Act 1980* (Cth), *Fisheries Management Act 1991* (Cth), *Offshore Minerals Act 1994* (Cth), *Offshore Petroleum and Greenhouse Storage Act 2006* (Cth), See Rachel Baird 'The National Legal Framework' in Rachel Baird & Donald R Rothwell (eds) *Australian Coastal and Marine Law* (2011) at 45 *et seq*.

[53] *New South Wales v Commonwealth* (1975) 135 CLR 337.

[54] The Offshore Constitutional Settlement 1980. See Commonwealth of Australia *Offshore Constitutional Settlement: A Milestone in Co-operative Federalism* (1980), Marcus Haward, 'The Australian offshore constitutional settlement' (1989) 13 (4) *Marine Policy* 334-348; Donald R

Thus shoreline law sits within a complex legal framework which includes surviving common law and local, State and Commonwealth statutes. It is only part of the much wider framework of law and policy which applies in the coastal zone in Australia.[56]

Though there is no scope in this paper to elaborate the point, it is apposite to note here that shoreline law is only one small part of our existing legal framework that is being challenged by global climate change impacts such as sea-level rise.

2.3. Ecological, social and economic impacts also provide context

What are the wider impacts likely to arise from higher sea levels and greater coastal erosion? And what context do they provide for the principles of shoreline law?

At a fundamental level, sea level rise is likely to affect large areas of previously dry coastal land which will become increasingly subject to inundation by ordinary tides and more frequent extra-ordinary tidal heights, such as storm surges, during extreme events.[57]

Higher sea levels, increased storminess and greater coastal erosion are likely to lead to a suite of adverse impacts,[58] including the destruction and loss of some areas of coastal land,[59] the loss of important areas of habitat,[60] the disruption of or irreversible

Rothwell, 'The legal framework for ocean and coastal management in Australia' (1996) 33(1-3) *Ocean & Coastal Management* 41-61; Pat Brazil, *Offshore Constitutional Settlement 1980 A Case Study in Federalism* (2001) Occasional Paper Australian National University 5 April 2001. See also the discussion of the OCS in Rachel Baird & Donald R Rothwell (eds) *Australian Coastal and Marine Law* (2011) at 48 *et seq*.

[55] *Constitutional Powers (Coastal Waters) Act 1979* (NSW), *Coastal Waters (State Powers) Act 1989* (Cth), *Coastal Waters (State Title) Act 1980* (Cth).

[56] See the lists of applicable Commonwealth and State legislation complied by Matthew Osborne in Rachel Baird & Donald R Rothwell (eds) *Australian Coastal and Marine Law* (2011) at 67*et seq*.

[57] John Church, Neil White, John Hunter, Kathleen McInnes, Peter Cowell and Siobhan O'Farrell 'Sea-level Rise', Chapter 12 in Peter W Newton, (ed) *Transitions - Pathways Towards Sustainable Urban Development in Australia* (2008), at 191. See the discussion of storm surge impacts at 205. See also A Barrie Pittock *Climate Change The Science, Impacts and Solutions* (2009) at 85 *et seq*. Pittock reported, at 85 and 93, that 'an increased frequency of extreme high sea-level due to storm surges is likely, yet Table 5, at 84, shows the IPCC 2007 confidence in this as 'virtually certain'.

[58] See the discussion of this by Robert J Nicholls 'Impacts of and Responses to Sea-level Rise', Chapter 2 in John A Church, Philip L Woodworth, Thorkild Aarup and W Stanley Wilson (eds) *Understanding Sea-level Rise and Variability* (2010) at 17 *et seq.* See also A. Barrie Pittock, 'Impacts: Why be concerned? Chapter 6 in *Climate Change The Science, Impacts and Solutions* (2nd ed 2009) at 108 *et seq.*

[59] Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 35 reported on modeling which suggested a 50% probability of 50 m of erosion at Manly Beach Sydney and 150m of erosion at Bundjalung Beach in the NSW north coast, by 2100.

[60] Coastal wetlands are likely to be one habitat which undergoes significant losses, with up to half the existing area estimated to be lost by 2100: see the authors and studies 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 36-7. See also the discussion of habitat sensitivity to climate change for corals, macroalgae, mangroves, salt-marshes, sea-grasses and beaches in Chapter 4 'Climate Change Risks to the Coastal Environment' in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009), at 57 *et seq.*

damage to coastal eco-systems[61] and changes in the stability of coastal lake and lagoon entrances.[62]

As well as increased storm damage,[63] impacts such as changes in the height and salinity level of coastal water tables, brought about by seawater inundation[64] are likely to affect many species,[65] forcing their dispersal,[66] or where this is not possible, leading to the loss of local populations.[67]

Some species that have no, or no known, value to human society, may be lost permanently, but it is also likely that other species of socio-economic significance to humans, such as corals,[68] fish, crustaceans,[69] and oysters,[70] will also become adversely affected with potentially significant negative implications for the tourism and seafood industries.[71]

The context provided by this glimpse of the future from an eco-centric point of view, is that humans are only one of many species which are likely to be adversely affected and many others are likely to be displaced or permanently lost from their coastal habitats as the impacts of global climate change become manifest.

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[61] See the discussion of this in Chapter 4 'Climate Change Risks to the Coastal Environment' in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009), at 51 *et seq.* See also Will Steffen et al 'Responses of Australia's biodiversity to climate change', Chapter 5 in *Australia's Biodiversity and Climate Change* (2009) at 71 *et seq.*

[62] Philip Haines and Bruce G Thom, 'Climate Change Impacts on Entrance processes of Intermittently Open/Closed Coastal Lagoons in New South Wales' (2007) SI50 *Journal of Coastal Research* 242-246, cited in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 56.

[63] The risks of extreme events are discussed by A Barrie Pittock in *Climate Change The Science, Impacts and Solutions* (2009) at 115 *et seq.*

[64] Robert J Nicholls 'Impacts of and Responses to Sea-level Rise', Chapter 2 in John A Church, Philip L Woodworth, Thorkild Aarup and W Stanley Wilson (eds) *Understanding Sea-level Rise and Variability* (2010) at 23. See the discussion of the impacts of changes in sea-level and patterns of rainfall on coastal eco-systems by Jenny Davis, Sam Lake and Ross Thompson 'Freshwater Biodiversity and Climate Change' in *Managing Climate Change –papers from the Greenhouse 2009 Conference,* at 77.

[65] Impacts on vulnerable species are not limited to these factors however. Other climate change factors such as increased temperatures, changes in global CO2, rainfall patterns and fire regimes, and individual species' ability to disperse will all affect species persistence in-situ. Species will be affected and respond in a variety of ways. See Will Steffen et al *Australia's Biodiversity and Climate Change* (2009) at 74.

[66] See the discussion of the range of climate impacts creating pressure for dispersal and dispersal responses in Will Steffen et al *Australia's Biodiversity and Climate Change* (2009) at 75 *et seq.*.

[67] Will Steffen et al *Australia's Biodiversity and Climate Change* (2009) at 91.

[68] Paul Marshall, 'Climate change and the Great Barrier Reef: impacts and adaptation', in Will Steffen et al *Australia's Biodiversity and Climate Change* (2009) at 87-8. See also Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 57-9.

[69] See JS Hindell 'Assessing the trophic link between seagrass habitats and piscivorous fishes' (2006) 57 *Marine and Freshwater Research* 121-131, cited in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 65, fn 83.

[70] See the reference to the impact of changes in water quality on the 'susceptibility' of Sydney Rock Oysters to QX disease following periods of increased rainfall in Will Steffen et al *Australia's Biodiversity and Climate Change* (2009) at 95.

[71] Paul Marshall, 'Climate change and the Great Barrier Reef: impacts and adaptation', Box 5.5. in Will Steffen et al *Australia's Biodiversity and Climate Change* (2009) at 87-8. See also the brief discussion of negative impacts of sea-level rise on socioeconomic sectors by Robert J Nicholls 'Impacts 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 23.

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] For e.g. See Ryan Compton, John McAneney, Keping Chen, Roy Leigh and Laraine Hunter 'Natural Hazards and Property Loss' in in Peter W Newton, (ed) *Transitions - Pathways Towards Sustainable Urban Development in Australia* (2008), at 1284 *et seq.* See especially Chapter 5 'Climate Change Risks to Settlement and Industry' in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 71 *et seq.*

[74] E.g. Anon, ' Sea threatens Wooli homes' *The Daily Examiner* (Grafton), 10 August 2010. Barclay Crawford, 'Battlelines in the sand over new laws' *The Daily Telegraph* (Sydney) 19 September 2010. Wilkinson, Marian, 'Beachfront residents on own against sea rise' *Sydney Morning Herald* Weekend Edition 13-14 June 2009, p5.

[75] Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 14.

[76] Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 71, noted that nationally 711,000 existing residential buildings were close the water, with 'between 157,000 - 247,600 properties … potentially exposed to inundation from a sea-level rise of 1.1m', and 'nearly 39,000 buildings are located within 110m of 'soft' shorelines at risk from accelerated erosion due to sea-level rise and changing climate conditions'. It estimated, at 71, that 'the current value of existing residential buildings at risk from inundation ranges from $41 billion to $ 63 billion (2008 replacement value).'

[77] Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 77, 79, reported that 'between 40,800 and 62,400 residential buildings in NSW may be at risk of inundation from a sea-level rise of 1.1m and storm tide associated with a 1-in-100 year storm. The current replacement values of the residential buildings at risk was between $12.4 billion and $18.7 billion.' The corresponding figures for Queensland, at 86, showed that 'between 35,900 and 56,900 residential buildings may be at risk of inundation from a sea-level rise of 1.1m' with a replacement value of between $10.5 billion and $16 billion.

[78] See fn70 above. See also the discussion of the implications of higher seas and greater storminess for infrastructure and services, at 120 *et seq.,* on vulnerable communities, at 125 *et seq.*, and on Industry at 127 *et seq.* in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009).

[79] Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 35. See fn 58 above.

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 related public policy issues.

Finally, it is also appropriate to recognise that climate change impacts on human interests and values in the coast occur within a much wider ecological context where higher sea levels and greater coastal erosion affect a great many other species, many of whose ability to adapt or relocate may be significantly lower than our own.

[80] See 'Table 5.3 Transport and service infrastructure and facilities located within 200m and 500m of the Australian coastline' in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 120.

[81] Likely impacts of climate change on fisheries are diverse but are still poorly understood. See Will Steffen et al *Australia's Biodiversity and Climate Change* (2009) at 93-5. See also the brief discussion of the impacts of the loss of seagrass habitat on fish and crustacean in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 65. A Barrie Pittock, *Climate Change The Science, Impacts and Solutions* (2009) included impacts on coral and fisheries, at 286, as part of a wider summary of climate change impacts on Australia and New Zealand, provided initially in Chapter 11 of the IPCC 2007 report WGII.

[82] Such as social activities and recreational pursuits including walking, running, fishing, swimming, surfing, snorkeling, diving and boating.

[83] See for example the losses of coastal land in coastal reserves at Kingscliff, Tweed Shire and Woolli, Clarence Valley Shire, NSW.

[84] See the examples of sea-level rise impact assessment and adaptation planning projects undertaken in NSW by Greater Sydney Coastal Councils Group, Lake Macquarie City Council and for the Central and Hunter coasts, cited in Australian Government *Climate Change Risks to Australia's Coast- A first pass national assessment* (2009) at 82-85, and in south-east Queensland, Mackay and Cairns, at 87-91.

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

7/ Land 'lost' to the sea, below HWM, by gradual erosion or diluvion, ceases to be real property, and reverts to the Crown.

8/ Ambulatory boundaries supplant and rescind surveyed boundaries.

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

These principles form the major part of the conceptual framework of the common law doctrine of accretion. Other supplementary elements of the doctrine such as rules, unique conceptions and standards, are not detailed here for want of space.[85]

In the following sections these key principles are posited and authorities from English common law judgments, decisions of more recent Australian cases and relevant provisions of current statute law are cited.

In each instance I first describe the source of the statement of principle. Some of the principles are stated here as stated by the court, or by an authoritative law text, others paraphrase a longer statement or encapsulate a key concept in a concise form of words.

[85] DM Walker (ed) *The Oxford Companion to Law* (1980) at 371, defines a 'doctrine of law' as 'Systematic formulations of legal principles, rules, conceptions, and standards with respect to particular situations, or types of cases, or fields of the legal order, in logically inter-dependent schemes, whereby reasoning may proceed on the basis of the scheme and its logical implications. Examples are the doctrine of consideration in contract, the doctrine of personal bar, and the doctrine of *respondeat superior* (q.q.v.). The development and formulation of doctrines are the work of judges and jurists, not of legislation, which treats of particular rules only.

Principle 1

The legal boundary between tidal waters & adjacent land is High Water Mark.[86]

This principle is a simple restatement of a core element of the doctrine of accretion, first pronounced in 1636.[87]

The common law definition of high-water mark as 'ordinary high-water mark',[88] or 'ordinary high-tide'[89] applies in NSW,[90] although this definition has been subsequently reflected in the relevant statute as 'mean high water mark'[91] (MHWM). Under common law, in NSW the mean high-water mark is not fixed, but is an 'ambulatory' boundary.[92]

However, because MHWM is a statistical mean, actual tidal height will exceed the mean high-water mark twice a month on each new and full moon, as 'spring tides' encroach across the MHWM boundary.[93]

This is because the heights of these twice-monthly spring tides are excluded from the heights used in the calculation of the mean.[94]

These monthly spring tides are not 'ordinary tides' as defined[95] but neither are they extra-ordinary tides, since they occur every 14.5 days as a normal part of the lunar influenced tidal cycle.[96]

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[86] The principal authority is *Attorney General (UK) v Chambers* (1854) 4 De GM & G 206. Authority for the method of calculation is usually given as *Tracey Elliot v Morley (Earl)* (1907) 51 SJ 625. See *The English and Empire Digest* Repl Vol 47 Waters [483]-[492]. See also *Halbury's Laws of Australia* 355 Real Property [355-14000] Seashore fn1

[87] The boundary between land and water was first determined as high-water mark in *Vanhaesdanke's Case* 12 Car 1. (1636), as cited by Sir Matthew Hale in *De Jure Maris* (1667) Cap IV. IId. (I), in Stuart A Moore *A History of the Foreshore* (1888) at 378. Hale cited two confirming authorities, *Sir Edward Heron's case* 15 Car BR (1639) and *Lady Wandsford's case* 17 Car 2 (1666).

[88] The phrase 'ordinary high-water mark' was used in *Lowe v Govett* (1832) 3 B & Ad 863, by Littledale J, at 870, as the limit of the Crown's right to the seashore, to distinguish that line from the line formed by 'the ordinary spring tide'.

[89] An ordinary high tide is taken at the point of the line of the medium high tide between the springs & neaps, ascertained by taking the average of the medium tides during the year. *Tracey Elliot v Morley* (Earl of) (1907) 51 Sol Jo 625, Joyce J, cited in *The English and Empire Digest* Repl Vol 47 Waters at [491].

[90] E.g. *Attorney General for NSW v Dickson* [1904] AC 273, Lindley J at 277, *McGrath v Williams* [1912] 12 SR 477, Simpson CJ at 482 and see also *Verrall v Nott* (1939) 39 SR(NSW) 89 at 97.

[91] Section 5 Definitions of the *Surveying Regulations 2006* (NSW) states :**"mean high-water mark"** means the line of mean high tide between the ordinary high-water spring and ordinary high-water neap tides.**"** Clause 51(a) and (b) of the *Surveying Regulation 2006* stipulates that references to high-water mark and to tidal waters are to be taken to refer to "mean high-water mark".

[92] The term 'ambulatory' was adopted by Nicholas J in *Verrall v Nott* (1939) 39 SRNSW 89, at 97, following a submission by the plaintiff's counsel, Williams KC, at 92, 'This boundary is not static, but is ambulatory. The boundary is not made static because a certificate of title has been issued'.

[93] See the discussion of this in *Attorney General (UK) v Chambers* (1854) 4 De GM & G 206, by Alderson B 214 – 216, and by Lord Cranworth at 216-218.

[94] *Attorney General (UK) v Chambers* (1854) 4 De G M & G 206. Alderson B, at 214, noted that Hale excluded the highest annual spring tides and monthly spring tides from the calculations of ordinary tides and noted that the same approach had been followed in *Lowe v Govett* (3 B & Ald 863).

[95] 'Ordinary tides' were defined as the 'medium tides' occurring between the monthly spring and neap tides by Alderson B in *Attorney General v Chambers* (1854) 4 De G M & G206, at 215.

[96] Department of Environment, Climate Change and Water NSW *A Snapshot of Future Sea-levels: Photographing the King Tide* (2009) at 5.

The term 'king tide' has 'no particular scientific meaning'[97] but is sometimes used to refer to the highest 'spring' tides,[98] or to any high tides which exceed the height of the mean high water mark.[99]

The highest spring tides of the year represent the upper limit of the natural tidal range[100] and do not, by their occurrence, indicate increases in global sea-level, but rather are the result of the twice-monthly alignments of the Sun and the Moon.[101]

The term 'extra-ordinary tides' is usually used to refer to the temporary elevations in sea level caused by 'storm surge' or other abnormal occurrences[102] such as tidal anomalies.[103]

Thus, in NSW, the mean high-water mark denotes the height (& position) of the high tide which occurs *most often.*[104] It is by definition a mark which is likely to be exceeded by many high tides occurring within the normal tidal range.

In Queensland, high-water mark is defined by legislation as 'the ordinary high-water mark at spring tides'.[105] This definition has been interpreted to mean the average of 'the ordinary high-water marks at spring tides each lunar month' and is sometimes referred to as 'mean high-water springs' (MHWS).[106]

The common law definition was repealed and the new statutory definition of 'ordinary high water mark at spring tides' was first introduced into Queensland by the *Harbours Act* 1955 (Qld).[107] This statutory definition of high-water mark was subsequently reflected in other definitions in the *Land Act* 1994 (Qld)[108] and was carried forward into the *Coastal Protection and Management Act* 1995 (Qld).[109]

Through explicit provisions, the relevant Queensland statutes have continued to recognise the high-water mark as an ambulatory boundary.[110]

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[97] Ibid.
[98] Ibid.
[99] *Environment Protection Authority v Eric Saunders & Leaghur Holdings PL* (1994) 6 BPR 13,655. See the correspondence of Eric Saunders dated 4 November 1993, quoted by Bannon J at 13,658.
[100] Department of Environment, Climate Change and Water NSW *A Snapshot of Future Sea-levels: Photographing the King Tide* (2009) at 6.
[101] Andrew D Short & Colin D Woodroffe *The Coast of Australia* (2009) at 42.
[102] *Attorney General v Chambers* (1854) 4 De G M & G 206, Cranworth LC at 216; *Svendsen v Queensland* (2002) 1 Qd R 216, by Demack J at 230.
[103] Department of Environment, Climate Change and Water NSW *A Snapshot of Future Sea-levels: Photographing the King Tide* (2009) at 7.
[104] In *Attorney General (UK) v Chambers* (1854) 4 De G M & G 206, Cranworth LC, at 218, discussed 'the line of the medium high tide between the springs and the neaps', and observed that 'all land below that line is *more often that not* covered at high-water, and so may be justly said …to be covered by the ordinary flux of the sea'.
[105] See the *Land Act 1994* (Qld) Schedule 6 – Dictionary, at 407 in the Reprint No. 10G, as in force at 18 December 2009: '***high-water mark*** means the ordinary high-water mark at spring tides'. See *Svendsen v Queensland* (2002) 1 Qd. R 216, Demack J at 230.
[106] *Svendsen v Queensland* (2002) 1 Qd. R 216, Demack J at 230.
[107] *Svendsen v Queensland* (2002) 1 Qd. R. 216, Demack J at 227.
[108] See sections 8-14 of the *Land Act* 1994 (Qld)
[109] *Coastal Protection and Management Act* 1995 (Qld) See Schedule Dictionary referred to in s.6. Definitions: '***high-water mark*** means the ordinary high-water mark at spring tides'.
[110] See section 77(2) of the *Harbours Act 1955* (Qld), cited in *Svendsen v Queensland* (2002) 1 Qd R 216, by Demack J at 228. See also s.9(2)(b) of the *Land Act* 1994 (Qld): 'if the line of the high-

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.
Thus, in Queensland, it is probable that only extra-ordinary tides will exceed MHWS.

At common law the high-water mark defines the line of the shore,[112] or 'shoreline'.[113]
Land seaward of the high-water mark is part of the 'foreshore'[114] or 'seashore'[115].
Land to the landward of the high-water mark comprises the 'shore' or 'coast'[116].

Hence the terms 'high-water mark', 'shoreline' and 'coastline'[117] are synonymous.
All three terms refer to the line that is 'the landward limit of the foreshore'.[118]

Thus it is the line of high-water mark, however defined, which forms the boundary between land and tidal waters.[119]

This principle of the doctrine of accretion applies only to tidal waters.[120]

A closely related element of the doctrine[121] – the *ad medium filum* rule[122] – usually applies to land bounded by non-tidal waters such as rivers.[123]

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water mark shifts over time by gradual and imperceptible degrees – the boundaries of the parcel shift with the high-water mark.'

111 *Svendsen v Queensland* (2002) 1 Qd R 216, by Demack J at 230.

112 Shore is defined in *Scratton v Brown* (1825) 4 B & C 485, by Bayley J at as 'that specific portion of the soil by which the sea is confined to certain limits…' This subsequent definition by the court supplants the definition of 'the shore' as 'that ground that is between the ordinary high-water and low-water mark' given by Hale in *De Jure Maris* (1667) at Cap IV. IId. (I), in Stuart A Moore *A History of the Foreshore* (1888) at 378.

113 In *Southern Centre of Theosophy Incorporated v South Australia* [1978] 19 SASR 389, Walters J says at 391, '… I take the high-water mark to mean the furthest level at which the water in the body of the water of Lake George has been held for a sufficient period to leave a water mark along the edge or shore-line of the lake.'

114 Baron Alderson describes the foreshore as 'the space between high and low-water mark' in *Re Hull & Selby Railway* (1839) 5 M & W 327 at 332. In *Mahoney v Neenan* [1966] IR 559, Mc Loughlin J referred to 'a portion of the beach which was foreshore – that is, seaward of the high-water mark'.

115 The term 'seashore' was defined in *Scratton v Brown* (1825) 4 B & Cr 485, by Bayley J at 498. In *Mellor v Walmsley* (1905) 2 Ch 164, Romer J at 177, cited the definition of 'seashore' from *Wharton's Law Lexicon* (6th ed) at 873, as 'the space of land between high and low-water mark' and noted that 'seashore' had the same meaning as 'foreshore'.

116 In *Rex v Forty-Nine Casks of Brandy* (1836) 3 Heg. Adm. 257, Sir John Nicoll stated that 'The coast is, properly, not the sea, but the land which bounds the sea'; cited in the *English and Empire Digest* (1966) Repl Vol 47, at [482].

117 In *Esquimault & Nanaimo Railway Company v Treat* (1919) 121 LT 657, it was held that the term 'coastline' meant 'the eastern boundary of the land at high-water mark & did not … include the foreshore'; cited in the *English and Empire Digest* (1966) Repl Vol 47, at [521].

118 *Mahoney v Neenan* [1966] IR 559, McLoughlin J at 565.

119 *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655 Bannon J at 13,660. See also *Svendsen v Queensland* (2002) 1 Qd R 216, Demack J at 232.

120 However other principles of the doctrine apply to both tidal and non-tidal waters.

121 In *Southern Centre of Theosophy Incorporated v South Australia* [1982] 1 All ER 283, Lord Wilberforce at 289 referred to the *ad medium filum* rule as a 'parallel doctrine'.

122 to the centre line (thread) of the stream. See Peter Butt, ed, LexisNexis Concise Australian Legal Dictionary (4th ed 2011) at 15.

123 This rule was first applied in the colony of New South Wales in *Lord v Commissioners for Sydney* (1859) 12 Moo PC 473, where a case from the United States of America, *Tyler v Wilkinson* (4 Mason's US Reps 397) was cited as authority for the rule by counsel for Lord, at 483. See also *Lanyon PL v Canberra Washed Sands PL* (1966) 115 CLR 342.

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 Convention on the Law of the Sea*, Part II – Territorial Sea and Contiguous Zone, Articles 5 & 6.
[130] Ibid, Article 7.
[131] See the discussion of 'baselines' under the Law of the Sea Convention in Rachel Baird and Donald R Rothwell *Australian Coastal and Marine Law* (2011) by Rachel Baird at 54-6.
[132] Legal Online, *The Laws of Australia,* Real Property > Physical Limits to Land > Boundaries . Accretion and erosion [28.15.52] at 8 March 2011.
[133] The principles applying to natural boundaries formed by water bodies have been referred to as 'the doctrine of accretion' since the term was first used in *Foster v Wright* (1878) 4 CPG 438, by Lindley J at 447. In *Hindson v Ashby* [1896] 2 Ch 1, Lindley J again used the term at 13,14.
[134] In *Attorney General (Ireland v McCarthy* (1911) 2 IR 260, Palles CB observed, at 277, that '[t]his is the principle upon which the defendant relies; and although Bracton's statements of it refers to the actions of rivers only, it is undoubted that so far as it exists in the law of this country, it is applicable to the action of the waters of the ocean on the seashore'.

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] *Hazlett v Presnell* (1982) 149 CLR 107

[140] *In re White* (1927) 27 SR(NSW) 129, Street CJ ruled, at 132, that the Registrar General 'should insert in the description of the land in the certificate of title … a statement showing whether the presumption of ownership of the soil *ad medium filum* does or does not apply'.

[141] s.9(2)(b) of the *Land Act* 1994 (Qld): 'if the line of the high-water mark shifts over time by gradual and imperceptible degrees – the boundaries of the parcel shift with the high-water mark.'

[142] Gifford v Yarborough (1828) 5 Bing 163, Best CJ at 163.

[143] In *Southern Centre of Theosophy Inc v South Australia* [1982] 1 All ER 283, Lord Wilberforce said, at 287, 'If part of an owner's land is taken from by erosion, or diluvion (advance of the water) it would be most inconvenient to regard the boundary as extending into the water; the landowner is treated as losing a portion of his land'.

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 and progress as it occurs.'

[145] Legal Online *The Laws of Australia*, Real Property > Physical limits to land > Boundaries > Accretion and erosion [28.15.52]. See also Peter Butt *Land Law* (6th ed 2010) at 34.

[146] *Attorney General (UK) v Chambers, AG v Rees* (1859) 4 De G & J 55. Lord Chelmsford, at 69, referred to 'accretions produced by nature' and to 'the operation of natural causes'.

[147] In *Attorney General (Ireland) v McCarthy* [1911] Gibson J at 298, stated it thus '… the principle governing the ownership of alluvion growing by imperceptible process of nature is the same'. See also Legal Online *The Laws of Australia*, Real Property > Physical limits to land > Boundaries > Accretion and erosion [28.15.52].

[148] *Trafford v Thrower* (1929) 45 TLR 502, Eve J at 503.

[149] *Southern Centre of Theosophy Inc (SCOTI) v South Australia* [1982] 1 All ER 283, Lord Wilberforce at 290, said '… there seems to be no reason in principle why the doctrine should be confined to such changes as are effected solely through fluvial action: a logical category would be that of natural causes which would embrace additions to (or detractions from) land brought about by the action of either or both elements, water and air'.

[150] The Privy Council's *SCOTI* decision in 1982, overturned a decision of the Full Bench of the South Australian Supreme Court and restored the decision of Walters J in *Southern Centre of Theosophy Incorporated v South Australia* (1978) 19 SA(SR) 389. Windswept sand was one of three contributory causes recognized by Walters J at 394.

[151] *Attorney General of Southern Nigeria v John Holt & Co* (1915) AC 599, Lord Shaw at 615. *Brighton and Hove General Gas Co v Hove Bungalows Ltd* (1923) 1 Ch 372, Romer J at 389. *Trafford v Thrower* (1929) 45 TLR 502, Eve J at 502.

It is important to recognise that the words 'slow' and 'imperceptible' have been recognised by the court as only qualifications of the first word 'gradual'.[153] Hence the phrase operates as a single condition, not three separate tests.[154]

The term 'imperceptible' has been ruled as being 'expressive only of the manner of the accretion' and 'as meaning imperceptible in its progress, not imperceptible after a long lapse of time'.[155]

Further, the court has recognised that the test of gradualness is not based on a fixed standard, but is a relative one which must be applied to the actual conditions.[156]

The court noted 'the comparative rapidity' of accretions formed by rivers in India[157] and ruled that

> 'the actual rate of progress necessary to satisfy the rule when used in connection with English rivers is not necessarily the same when applied to rivers in India.'[158]

Thus it is clear that there is no simple metric definition of gradualness.[159]

Explicitly excluded from the doctrine of accretion is 'avulsive' action: where there are sudden changes to a bounding waterline which progress 'perceptibly'.[160]

The courts have recognised that a 'logical, and practical gap' or 'grey area' ' exists 'between what is imperceptible and what is considered avulsion',[161] and so 'the issue of imperceptibility or otherwise' has always been referred to a jury for determination.[162]

The simple scheme inherent in this aspect of the doctrine of accretion may be characterized as a diagram, as in the following figure.

[152] *Rex v Yarborough* (1824) 3 B & C 91.
[153] *Secretary of State for India v Vizianagaram (Rajah)* (1921) LR 49 Ind. App. 67. Lord Carson at 68-9.
[154] Ibid at 69.
[155] *Rex v Yarborough* (1824) 3 B & C 91, Abbot CJ at 107. This passage was quoted in *Attorney General (UK) v Chambers, AG v Rees* (1859) 4 De G & J 55, by Lord Chelmsford at 71, though he mistakenly attributed the quote to Lord Tenterden.
[156] *Secretary of State for India v Vizianagaram (Rajah)* (1921) LR 49 Ind. App. 67, at 69. This judgment of the Judicial Committee of the Privy Council was delivered by Lord Carson.
[157] Ibid at 68.
[158] Ibid at 69.
[159] See the comments in *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260, by Gibson J at 296.
[160] *Attorney General (UK) v Reeve* (1885) 1 TLR 675. Lord Coleridge, at 678, noted the evidence that 'this advance of the beach and receding of the line of ordinary high-water mark could be plainly perceived from time to time as it went on' and gave judgment for the Crown.
[161] *Southern Centre of Theosophy Inc v South Australia* [1982] 1 All ER 283, Lord Wilberforce at 291.
[162] Ibid. See also *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260, Gibson J at 296.

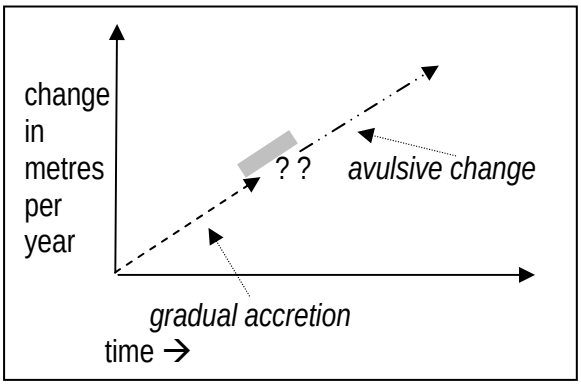

Figure 1. the simple scheme of gradual and avulsive change

Two other rules of the doctrine, which also determine whether changes in a water boundary can be recognised by law, are described as third and fourth 'conditions' in the following sub-sections.

iii) accretion must not be unlawfully caused by the benefiting landowner

Though accretion must be 'natural', human agency in causing or adding to accretion is not entirely prohibited by the doctrine,[163] provided the means of accretion have natural causes.[164]

The doctrine of accretion has been developed by the court to recognise the private ownership of new areas of land created through the natural process of accretion, but caused or contributed to by the action of another party.[165]

While there have several clear statements that the doctrine does not apply to accretions deliberately caused by the actions of the benefiting landowner, [166] it would appear that this exclusion only applies to actions which are not 'lawful'.[167]

In *Brighton and Hove General Gas C. v Hove Bungalows Ltd* [1924][168] the court found that the erection of groynes and the installation of brush fences and other devices for the purpose of preventing erosion were lawful activities,[169] and that any

[163] Ibid.
[164] *Southern Centre of Theosophy Inc v South Australia* [1982] 1 All ER 283, Lord Wilberforce at 290.
[165] *Attorney General (UK) v Chambers , AG v Rees* (1859) 4 De G & J 55*,* Lord Chelmsford at 68; *Brighton & Hove General Gas Co v Hove Bungalows Ltd* [1924] 1 Ch 372, Romer J at 390.
[166] In *Attorney General (UK) v Chambers , AG v Rees* (1859) 4 De G & J 55;Lord Chelmsford, said at 69, 'Of course an exception must always be made of cases where the operations upon the party's own land are not only calculated, but can be shown to have been intended, to produce this gradual acquisition of the seashore, however difficult such proof of intention may be.' In *Southern Centre of Theosophy Inc v South Australia* [1982] 1 All ER 283, Lord Wilberforce stated the principle simply, at 290, 'It is common ground that changes caused by human action (other than the deliberate action of the claimant) are within the doctrine of accretion ...'
[167] *Attorney General (UK) v Chambers , AG v Rees* (1859) 4 De G & J 55*;*Lord Chelmsford said, at 68, 'If this be the true ground of the rule, it seems difficult to understand why similar effects, produced by a party's lawful use of his own land, should be the subject to a different law, and still more so if these effects are the result of operations upon neighbouring lands of another proprietor'.
[168] *Brighton and Hove General Gas C. v Hove Bungalows Ltd* [1924] 1 Ch 372.
[169] Ibid at 390.

accretion of land incidentally caused by these groynes, was nonetheless lawfully owned by the adjoining land holder.[170]

This highly refined stipulation, that any actions of by the benefiting landholder which cause accretion, must be lawful action,[171] might be considered a third 'condition'.

The converse implication of this aspect of the doctrine, is that the gradual erosion of land by the natural process of erosion, (notwithstanding the involvement or intention of the owner or another party) will be recognised as loss of area from title of land.[172]

When the property is sold again, it must be sold 'as is' at that time, with an amended plan & description, reflecting its reduced area, not as original conveyed.[173]

iv) doctrine of accretion must not have been expressly excluded

A fourth possible 'condition' which must be met in order for the doctrine of accretion to apply, is the absence in the title deed or instrument of conveyance of an explicit stipulation that the doctrine of accretion is excluded[174] and does not apply.[175] Other factors explicit or inherent in the grant or title of land may combine to provide a clear indication that the doctrine of accretion was not intended to apply.[176]

Principle 4

New land formed gradually by accretion belongs to the adjoining landowner.

This statement of principle lies at the core of the doctrine of accretion since it governs the ownership of newly formed land.[177]

It paraphrases the decision of the Kings Bench in *Rex v Yarborough* (1824),[178] as affirmed by the House of Lords in *Gifford v Yarborough* (1828).[179]

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[170] Ibid.

[171] Lord Chelmsford's remarks regarding the application of the doctrine where a landowner's lawful activities on their own land unintentionally results in accretion, were quoted in *Brighton & Hove General Gas Co v Hove Bungalows Ltd* [1924] 1 Ch 372, by Romer J, at 386, and applied at 390-1.

[172] This was argued successfully in *McGrath v Williams* (1912) 12 SRNSW 477 where the court held that the Crown-owned 100 foot reserve (held as measured from the HWM as it then was) had been entirely eroded away, making the boundary of the adjoining private property the Shoalhaven River.

[173] *Southern Centre of Theosophy Inc (SCOTI) v South Australia* [1982] 1 All ER 283. Lord Wilberforce noted, at 287, that '[w]hen land is conveyed, it is conveyed subject to and with the benefit of such subtractions and additions (within the limits of the doctrine) as may be take place over the years'.

[174] *Southern Centre of Theosophy Inc (SCOTI) v South Australia* [1982] 1 All ER 283, at 287, Lord Wilberforce stated 'It [the doctrine] may of course be excluded in any particular case, if that is the intention of the parties. But if a rule so firmly founded in justice and convenience is to be excluded, it is to be expected that the intention to do so should be plainly shown'.

[175] See LegalOnline, *The Laws of Australia* Real Property > Physical limits to land > Boundaries > Accretion and erosion [28.15.54].

[176] *Sunlea Investments PL v New South Wales* (1998) 6 BPR 16,707, Beazley JA at 16,710-1.

[177] See LexisNexis *Halsbury's Laws of Australia* 355 Real Property/ VI Other/ (2) Boundaries Fences and Encroachments/ (B) Boundaries for Land Abutting Water/ (I) Tidal Water Boundaries [355-14005].

[178] *Rex v Yarborough* (1824) 3 B & C 91.

[179] *Gifford v Yarborough* (1828) 5 Bing. 163. The case is also reported as *Rex v Yarborough* in 2 Bligh NS 147 and 1 D & C 178.

Though the question of the ownership of lands formed gradually by alluvion was decided in Lord Yarborough's favour, against the Crown,[180] the decision of Abbott CJ in 1824 contained no succinct statement of the relevant principle of law.

Such a succinct statement was not long in emerging however.

In *Scratton v Brown* (1825),[181] Holroyd J described the accreted land as an 'appurtenance' attached to the granted lands, and concluded

> Then the accretion follows as an accessory to the principal. The change being gradual it becomes part of the shore, and belongs to the person who has the shore at the time when the accretion takes place.[182]

The principle was then more generally stated and rather more politely enunciated in the House of Lords' decision *Gifford v Yarborough* in 1828, where Best CJ stated, at the outset of the judgment:

> The Judges desire me to say to your Lordships that land gradually and imperceptibly added to demesne lands of a manor, as stated in the introduction to your Lordships' question, does not belong to the Crown, but to the owner of the demesne land.[183]

This principle is restated in more explicit language in several other important cases.

For example, in *Re Hull and Selby Railway Co* (1839) Lord Abinger stated it thus

> In all cases of gradual accretion which cannot be ascertained from day to day, the land so gained goes to the person to whom the land belongs to which the accretion is added and vice versa.[184]

A rather more longwinded formulation of the same principle, originally stated by Willes J in *Lloyd v Ingram* (1868),[185] was adopted and quoted as authoritative law by Smith LJ in *Hindson v Ashby* (1896)[186] and by Palles CB in *Attorney General (Ireland) v McCarthy* (1911) viz:

> If by gradual and imperceptible accretions in the ordinary course of the operation of nature land is added on by slow degrees to the shore… notwithstanding that after a certain period you may see that a body of land, however considerable, has accrued to the shore, yet if the steps by which that land is formed are steps gradual and in the ordinary course of nature, and happening from time to time, but you cannot perceive the change from step to step (if one may use that figure), then that land so gradually and imperceptibly accrued does belong to the owner of the shore, and is given to him by the law as his property. [187]…

A slightly different statement of this principle was given in *Verrall v Nott* (1939)[188] by Nicholas J who quoted Best CJ in *Gifford v Yarborough* (1828) as having said:

> 'The Judges are unanimously of the opinion that, by the general custom of the realm, lands gained gradually and imperceptibly from the sea by alluvion or projection belong to the owner of

[180] *Rex v Yarborough* (1824) 3 B & C 91 at 108.
[181] *Scratton v Brown* (1825) KB 4 B & C 485.
[182] *Scratton v Brown* (1825) KB 4 B & C 485, Holroyd J at 502.
[183] *Gifford v Yarborough* (1828) 5 Bing. 163 at 163.
[184] *Re Hull and Selby Railway Co* (1839) 5 M & W 327, at 332.
[185] No citation is available for this case. It is simply referenced as 'Separately reported in 1868'.
[186] *Hindson v Ashby* (1896) 2 Ch 1 at 29.
[187] *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260 at 293.
[188] *Verrall v Nott* (1939) 39 SR 89.

> the adjoining demesne lands, and not to the Crown. When the sea retreats suddenly and leaves a tract of land uncovered, that land belongs to the Crown; but it is otherwise with lands gained gradually and imperceptibly by alluvion or projection.[189]

As the last part of this quote suggests, where the action of the waters is to 'retire' or retreat gradually away from the previous waterline, uncovering land previously covered by water (dereliction), the ownership of that newly uncovered land is also awarded to the owner of the adjoining land.[190]
This element of the doctrine will be further considered in Principle 5 below.

As a decision of the House of Lords, this decision and this core principle of the doctrine of accretion are considered to be of the highest authority in English law.[191]

The *Yarborough* cases have been cited as authority in numerous subsequent decisions,[192] and this principle has been applied by the Privy Council in determining many appeals from nations of the former British Empire.[193]

New land is considered "a 'perquisite' or an 'incident' or 'accessory', attached to and added to the original territory of the owner".[194] In another case, new land added by accretion or dereliction, was described as 'an appurtenance to' the existing land. [195]

Principle 5

The doctrine of accretion includes erosion, diluvion and dereliction.

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

This statement has been constructed to encompass key decisions of the court.

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[189] *Gifford v Yarborough* (1828) 5 Bing. 163, Best CJ quoted in *Verrall v Nott* (1939) 39 SR 89 at 97.
[190] In *Re Hull & Selby Railway Co* (1839) 5 M & W 327, see Baron Alderson at p.332-333.
[191] In *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260, Palles CB, at 293, referred to the House of Lords' decision in *Gifford v Yarborough* and asserted, at 294, that 'I do not feel at liberty, when a question has been made the subject of decision by that august tribunal, to do more than follow it'.
[192] *Scratton v Brown* (1825) 4 B & C 485, *Attorney General (UK) v Chambers, AG v Rees* (1859) 4 De G & J 55, *Ford v Lacey* (1861) 30 LJ Ex 351; *Foster v Wright* (1878) 4 CPD 438, *Attorney General v Reeve* (1885) 1 TLR 675; *Nesbitt v Mablethorpe* UDC [1917] 2 KB 568; *Mellor v Walmesley* [1905] 2 Ch 164, *Mercer v Denne* [1905] 2 Ch 538, See the *English and Empire Digest* Blue Band, Repl Vol 47 (1966) Waters and Watercourses, Part II The Sea and the Seashore, Sub sect 3 Accretion and encroachment, B. Property in Accretion [500] *et seq*. See also *The Digest – Annotated British, Commonwealth and European cases*, Vo 49 (1986) Waters, Part 2 The Sea and Seashore, (iii) Accretion and Encroachment, 2. Property in Accretion [465] *et seq*.
[193] *Doe d Seebkristo v East India Co* (1856) 10 Moo PC 140; *Lopez v Muddun Mohun Thakoor* (1870) 13 Moo Ind App 467, *Attorney General (Southern Nigeria) v John Holt & Coy* (1915) AC 599; *Brighton & Hove General Gas Co. v Hove Bungalows* [1924] 1 Ch 372; *Secretary of State for India in Council v Foucar & Co* (1934) 50 TLR 241.
[194] *Attorney General (Ireland) v McCarthy* [1911] 2 IR 260, Gibson J at 295. This description was quoted with approval by Lord Wilberforce in *Southern Centre of Theosophy Inc v South Australia* [1982] 1 All ER 283, at 288.
[195] 'appurtenance' is defined as "**2** (*Law*) a right, privilege or improvement belonging to and passing with a principal property" in A. Delbridge, et al (eds) *Macquarie Dictionary* at 81. See *Scratton v Brown* (1825) KB 4 B & C 485, Holroyd J at 500.

Authoritative decisions by eminent jurists have made it clear that in addition to changes to boundaries wrought by gradual accretion, and its opposite, gradual erosion,[196] the doctrine of accretion also recognises as lawful a landholder's claim to land whose area has increased due to the gradual retreat of waters (dereliction).[197]

The courts have been entirely consistent however, because they have also applied the doctrine to recognise as a lawful loss,[198] a decrease in the area of land due to the gradual advance of waters (diluvion).[199]

Through these decisions the court has shown that the doctrine of accretion operates through two natural processes: the transport of sediment and changes in water level.

In this way the doctrine of accretion, as a doctrine of law, includes an additional process, change in water-level, which is not part of the process of 'accretion' as defined in geography,[200] or geology.[201]

Hence the meaning of 'accretion' in law[202] and the scope of the doctrine of accretion are substantially wider that the meaning of 'accretion' used by geographers. [203]

Thus, where the high-water line gradually retreats seawards, the boundary and area extends;[204] and where the high water line gradually advances landwards, the boundary contracts and the area of the property is reduced.[205].

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[196] *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260. Gibson J said at 298, 'In some districts the sea has receded, leaving places … once ports, now far removed from the water; elsewhere the mainland … has been eroded and washed away. In both classes of cases the original boundaries can be fixed. There is no distinction between gradual and imperceptible addition and gradual and imperceptible subtraction.

[197] In *Re Hull & Selby Railway Co*. (1839) 5 M & W 327, Baron Alderson said, at 332-333, 'Suppose the Crown, being the owner of the fore shore – that is, the space between high and low-water mark – grants the adjoining soil to an individual and the water gradually recedes from the foreshore, no intermediate period of the change being perceptible; in that case the right of the grantee of the Crown would go forward with the change. On the other hand, if the sea gradually covered the land so granted, the Crown would be the gainer of the land'.

[198] In *Attorney General for Southern Nigeria v John Holt & Company* (1915) AC 599 at 614, Lord Shaw said … 'for if the sea gradually steals upon the land, he loses so much of his property, which is silently transferred by law to the proprietor of the seashore", i.e. the Crown.

[199] In *Southern Centre of Theosophy Incorporated v South Australia* [1982] 1 All ER 283, Lord Wilberforce said, at 287, '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 the boundary as extending into the water; the landowner is treated as losing a portion of his land.

[200] Accretion: '**1.** The growth of land by the offshore deposition of sediment': see Susan Maythew (ed) *A Dictionary of Geography*. < http://www.highbeam.com/doc/1O15-accretion.html > at 8 March 2012.

[201] Accretion: '**3.** *Geology* **a.** Slow addition to land by deposition of water-borne sediment; **b.** An increase of land along the shores of a body of water, as by alluvial deposit;' See the American Heritage Dictionary of the English Language, (4th ed, 2000) < http://www.thefreedictionary.com/accretion > at 8 March 2012.

[202] See *Jowitts Dictionary of English Law* (2nd ed, 1977) at 27, 'Accretion of land is of two kinds: by alluvion *(q.v.), i.e.,* by the washing up of sand or soil, so as to form firm ground; or dereliction *(q.v.)* as when the sea shrinks below the usual water mark.'

[203] See for e.g. ECF Bird, *An Introduction to Systematic Geomorphology Vol. Four - Coasts* (2nd ed 1976) at 114, 136, 154-5; DM Chapman, M Geary, PS Roy and BG Thom *Coastal Evolution and Erosion in New South Wales* (1982) at 19.

[204] In *Re Hull & Selby Railway Co*. (1839) 5 M & W 327 at 333.

[205] *Foster v Wright* (1878) 4 CPD 438. Lord Lindley at 446 said 'Gradual accretions of land from water belong to the owner of the land gradually added to: *Rex v Yarborough*; and conversely, land

It is clear therefore that the whole of the doctrine of accretion includes

i) the creation of new land through the gradual build up of soil and sediment known as 'alluvion', by the process of accretion, (the primary case) and

ii) the uncovering of new land through the retreat of waters, i.e. dereliction,

but also includes, the two corresponding opposite natural processes

iii) the loss of land through gradual erosion, and

iv) the loss of land through the gradual advance of waters, i.e. diluvion.

I describe dereliction as a 'parallel' analogy of accretion since it has the same effect. It is probable that dereliction came to be recognised by custom and by the courts under the doctrine of *stare decisis,* under which like cases are treated alike.[206]

Erosion and diluvion are converse[207] analogies of the primary case, since they have a reciprocal,[208] or opposite, effect.

The inclusion of these converse analogies within the doctrine of accretion is emphasised by the courts' explicit recognition that the doctrine of accretion is 'double-sided'[209] and works 'both ways'.[210]

As the result of two 'natural processes' working both ways, the doctrine of accretion has four modes of operation under which gradual changes in the position of the bounding water line may be recognised as lawful.

The doctrine of accretion's four modes of operation are shown in the following table.

gradually incroached (sic) upon by water, ceases to belong to the former owner: *In re Hull and Selby Railway Co,'.*

[206] See the rationale for the doctrine of *stare decisis* provided in *Corporation v Treloar* (2000) 102 FCR 595, by Branson and Finkelstein JJ at 602, quoted in Catriona Cook, et al eds *Laying Down the Law* (7th ed 2009) at 74-5.

[207] The term 'converse' was used in *Foster v Wright* (1878) 4 CPD 438 by Lindley J at 446 and was adopted in *Attorney General (Ireland) v McCarthy* [1911] 2 IR 260, by Palles CB at 290, where he referred to 'land gradually encroached upon by water' as 'the converse proposition'. Erosion was erroneously described as working 'in a parallel way' by Janice Gray, Brendan Edgeworth, Neil Foster and Scott Grattan *Property Law in New South Wales* (2nd ed 2007) at 41.

[208] See *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260, Gibson J at 296.

[209] The term 'double-sided' was used in *Attorney General of Southern Nigeria v John Holt & Co Ltd* (1915) AC 599 by Lord Shaw at 614; and in *Southern Centre of Theosophy Incorporated v South Australia* [1978] 19 SRSA 389 by Walters J at 392.

[210] In *Williams v Booth* (1910) 10 CLR 341 Isaacs J discussed the doctrine's operation and said at 352, '… but the rule must work both ways, if at all.'

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 ***i) accretion***	retreat from previous position of water-line or HWM ***ii) dereliction***	**seawards** to ***increase*** area of land	the Crown (or State) to the adjacent landholder
remove soil & sediment below water-line or HWM ***iii) erosion***	advance past previous position of water-line or HWM ***iv) diluvion***	**landwards** to ***decrease*** area of land	the landholder to the Crown (or State)

Table 1. A summary of 'the whole of the doctrine of accretion'

It should be noted that the whole of the doctrine of accretion is bounded i.e. limited, by the operation of the doctrine of avulsion, [211] under which sudden changes do not change either the boundary or ownership of land.[212]

There is, however, an admitted 'grey area' between gradual imperceptible changes recognized by the doctrine of accretion and the bounding effect of the doctrine of avulsion.[213] This grey area makes the definition of precise limits of the doctrine of accretion difficult to state categorically, or in mathematical terms.

The question as to whether the change has occurred gradually and imperceptibly 'within the meaning of the authorities'[214] thus qualifying for consideration under the doctrine of accretion, is always a question of evidence and often for a jury to determine.[215]

This 'grey area' between the two doctrines of accretion and avulsion is discussed as one of the problems of shoreline law in section 5 of this paper below.

[211] See LexisNexis *Halsbury's Laws of Australia* 355 Real Property, VI Other, (2) Boundaries, Fences and Encroachments, (B) Boundaries for Land Abutting Water (I) Tidal Water Boundaries at [355-14005].
[212] Ibid. See also *Gifford v Lord Yarborough* (1828) 5 Bing 163, Best CJ at 169.
[213] *Southern Centre of Theosophy Incorporated v South Australia* [1982] 1 All ER 283, Lord Wilberforce at 291.
[214] Ibid at 292.
[215] Ibid at 291.

Principle 6

Land below high-water mark (<HWM) belongs *prima facie* to the Crown and is held in trust for public purposes.

This statement of principle summarises a suite of common law decisions.[216]

Land below HWM is, *prima facie,* owned by the Crown as part of the 'submerged lands'[217] covered by navigable (tidal) waters, unless it has been validly granted.[218]

In English common law, private ownership of land below HWM in tidal waters was possible, if this submerged land was originally included in the grant by the Crown as part of a manor or estate,[219] or if it was later purchased from such a grantee.[220] While this situation was common in England, it is rare in NSW.

In NSW, land below HWM is *prima facie* owned by the Crown, as the NSW Government.[221]

However, the Crown has the power to dispose of land,[222] and it has from time to time sold, or otherwise granted, title to lands below HWM.[223]

Usually, it has been the policy of the NSW Government to grant leases[224] or licences over a section of land below HWM,[225] rather than sell such lands.

Thus, while as a general rule, land in NSW below HWM is owned by the Crown, this may not be the case in specific locations where title has been formally conveyed.

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[216] *Bulstrode v Hall* (1663) 1 Keb 532; *Attorney General v Richards* (1795) 2 Anst 603; *Scratton v Brown* [1825] 4 B & C 485, at 495 and *Attorney General v Emerson* (1891) AC 649.

[217] This term comes from the *Submerged Lands Act 1973* (Cth).

[218] Sir Matthew Hale *De Juris Mare et Brachiorum Ejusdem* (c.1667) at Cap IV. IId. (I.) and at Cap V. The history of this statement was discussed by Stuart A Moore in *A History of the Foreshore and the Law relating thereto …* (1888) at xxxi, xl, 180-4 and 638 *et seq*. Moore, at 651 cited the sequence of cases from 1667 onwards, which reiterated Hale's dictum and cemented this statement as an element of English common law. Moore quoted from *Attorney General (UK) v Burridge* (1822) 10 Price 350, where Richards CB said 'It is a doctrine of ancient establishment that the shore between the high and low water marks belongs *prima facie* to the King, but it is equally clear that the King may grant his private right therein to his subjects'.

[219] There are many examples of this in the English common law cases, where land below HWM was included in a grant of land as part of a manor or estate: The earliest of these, is the *Abbott of Ramsey's case* (1371) 45 Ed 3. Other well known authorities include: *Constable's case* (1601) 5 Co Rep 106a; *Lord Berkley's case* 14 Car I (1638) and later, *Duke of Beaufort v Swansea Corporation* (1849) 3 Exch 413.

[220] as in *Scratton v Brown* (1825) 4 B & C 485. See the case notes at 486-9.

[221] *Hill v Lyne* (1893) 14 LR(NSW) 449, Innes J at 452, *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655, Bannon J at 13,660.

[222] *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655. Bannon J at, 13,660, cited as authority for this statement, the judgment of Jacobs J in *New South Wales v Commonwealth* (1975) 135 CLR 337 at 486.

[223] Title to land below the waters of Sydney Harbour was created under the *Real Property Act 1900* (NSW) by the passage of the *Sydney Harbour Trust Land Titles Act 1909* (NSW) (see *Verrall v Nott* (1939) 39 SR(NSW) 89 at 91) and is held by a public authority, currently NSW Roads & Maritime.

[224] E.g. the Crown may issue 'aquaculture leases' over land below HWM for oyster production under s.163 of the *Fisheries Management Act 1994* (NSW), or a 'special purpose' lease may be issued by the Minister under s.44C of the *Crown Land Act 1989* (NSW). See also NSW Government Commercial Lease Policy 2009 at <http://www.maritime.nsw.gov.au/docs/wh/commercial_lease_policy.pdf >

[225] Under s.45 of the *Crown Land Act 1989* (NSW).

In some specific jurisdictions, these submerged lands are within the control and administration of a Crown agent, such as the Sydney Harbour Foreshore Authority[226] or the Newcastle Port Corporation[227] who manage the lands for public uses.

In Queensland, by explicit provision in the relevant statute, the *Land Act 1994* (Qld), all land below high water mark is the property of the State.[228]

Title to, and power over, land to 3 nautical miles to the seaward of low-water mark were conferred on each State as their 'coastal waters' through Commonwealth legislation in 1980,[229] after state legislation ceded any residual power.[230]

Lands under coastal waters **are held in trust by the Crown for public uses.**

The second part of this statement of principle sums up another long-standing rule.[231]

Private uses of Crown lands such as the foreshore and areas of submerged land are usually only granted to a private owner subject to the continuance of (and non-interference with) the longstanding public uses: access, navigation, and fishing.[232]

Under this principle it appears that the *jus publicum* – the public interest - is superior to, in the sense that it takes precedence over, the *jus privatum* – the private interest.

The principle that submerged lands are held in trust by the Crown, or State, to permit the continued exercise of public rights, is the essence of the Public Trust Doctrine.[233]

This principle was recognised in English common law[234] and it has been recognised and developed as 'the public trust doctrine' in decisions of the courts in the United States of America. [235] The public trust doctrine has been widely discussed by legal writers in the US.[236]

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[226] *Sydney Harbour Foreshore Authority Act (1998)* (NSW). See also *Verrall v Nott* (1939) 39 SRNSW 89, in which the boundary to Sydney Harbour was determined to vary 'as high-water mark varies.'

[227] Constituted under s.6 of the *Ports and Maritime Administration Act (1995)* (NSW)

[228] Section 9 of the *Land Act 1994* (Qld).

[229] *Coastal Waters (State Powers) Act 1980* and *Coastal Waters (State Title) Act 1980* (Cth)

[230] E.g. *Constitutional Powers (Coastal Waters) Act 1979* (NSW).

[231] The 'public interest' in land beneath navigable waters, known as *jus publicum,* has been long recognized in Roman civil law and English common law. See the references to the Institutes of Justinian and Sir Matthew Hale by Holroyd J in *Blundell v Catterall* (1821) 5 B & A 268 at 292-4.

[232] *Blundell v Catterall* (1821) 5 B & A 268. Best J, at 277, quoted Sir Matthew Hale, *De Jure Maris* (c.1667) at 22, with approval: "The *jus privatum* that is acquired to the subject, either by patent or by prescription, must not prejudice the *jus publicum* wherewith public rivers and arms of the sea are affected for public use'.

[233] See Joseph L Sax, 'The Public Trust doctrine in Natural resource law: Effective Judicial Intervention' (1969-1970) 68 *Michigan Law Review* 471-566; Joseph L Sax, 'The Public Trust doctrine in Tidal Areas: A Sometime Submerged Traditional Doctrine (1970) 79 *Yale LJ* 762.

[234] *Attorney General v Richard* (1795) 145 ER 980; *Attorney General v Parmenter* (1811) 10 Price 378; *Parmenter v Attorney General* (1813) 10 Price 412; *Blundell v Catterall* (1821) 5 B & A 268. Best J, at 277; *Attorney General v Corporation of Portsmouth* (1870) 25 WR 559.

[235] The case of *Arnold v Mundy* (1821) US SC, 6 NJL 1,1 is usually given as the earliest recognition of the public trust doctrine in the United States. Subsequent decisions *Martin v Lessee of Waddell* (1842) 41 US (16 Pet.) 366, at 410; and *Pollard v Hagan* (1845) 44 US (3HoW) 212, 229-30 substantially extended the doctrine. See the discussion of this by James G Titus 'Rising Seas,

It has been argued that the public trust doctrine has further potential for application in Australia.[237]

Principle 7

Land 'lost' to the sea, below HWM, by gradual erosion or diluvion, ceases to be real property, and reverts to the Crown.

This principle has been stated explicitly to summarise several common law decisions.

It was first outlined by Alderson B in 1839 who said:

> 'if the sea gradually covered the land so granted, the Crown would be the gainer of the land.[238]

It was given further authority by Lord Chelmsford's statement of then settled law in *Attorney General (UK) v Chambers* (1859),*[239]* where he said

> 'if the sea gradually steals upon the land, he loses so much of this property, which is thus silently transferred by the law to the proprietor of the sea-shore.[240]

In *Foster v Wright* (1878)[241] Lindley J was also quite direct about the transfer of ownership, when he said

> … land gradually incroached (sic) upon by water, ceases to belong to the former owner: *In re Hull and Selby Railway Co.*[242]

In a more recent decision, *Mahoney v Neenan* [1966],[243] McLoughlin J referred to the case of *Re Hull and Selby Railway Co,* and re-stated this principle explicitly. He put this issue of transfer of ownership beyond doubt when he said

> … where there has been a gradual and imperceptible encroachment by the action of the tides the land which was formerly above high-water mark becomes the property of the State as the owner of the foreshore to the detriment of the owner of the land.[244]

Coastal Erosion, and the Takings Clause: How to save wetlands and beaches without hurting property owners' (1998) 57 *Maryland Law Review* 1279-1399, at 1362 *et seq.*

[236] See for example Joseph L Sax, 'Liberating the Public Trust Doctrine from Its Historical Shackles' (1980) 14 *University of California Davis, Law Review* 185-194; Janice Lawrence, '*Lyon* and *Fogerty*: Unprecedented Extensions of the Public Trust' (1982) 70 *California Law Review* 1138-1158; Richard J Lazarus, 'Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine' (1985) 71 *Iowa Law Review* 631-716. David C Slade, et al 'Lands, Waters and Living Resources Subject to the Public Trust Doctrine' in *Putting the Public Trust to Work* (1990); and David C Slade et al 'They Conveyance of Public Trust Land and the Nature of the Remaining Servitude' in *Putting the Public Trust to Work* (1990); Robert George 'The "Public Access Doctrine": our constitutional right to sun, surf and sand' (2005-2006) 11 *Ocean & Coastal Law Journal* 73-98..

[237] Tim Bonyhady, (1995) 'A Usable Past: The Public Trust in Australia' *Environmental and Planning Law* Journal 329-338; Tim Bonyhady, 'An Australian Public Trust' in Dover, S (ed) *Environmental History and Policy: Still Settling Australia* (2000).

[238] *Re Hull & Selby Railway Co* (1839) 5 M & W 327, at 333.

[239] *Attorney General v Chambers, AG v Rees* (1859) 4 De G & J 55.

[240] Ibid. Lord Chelmsford at 68.

[241] *Foster v Wright* (1878) 4 CPD 438.

[242] *Foster v Wright* (1878) 4 CPD 438, at 446.

[243] *Mahoney v Neenan* [1966] IR 559.

[244] *Mahoney v Neenan* [1966] IR 559, at 565.

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) included lands now lost below HWM.[262]

Thus the effect of the 'silent transfer' of minute sections of land to the Crown, repeated many times over a long period of time, may result in the dimensions and area of a property being significantly and suddenly reduced when a survey of the property is next prepared in readiness for offering the land for sale.

Notwithstanding the 'silent transfer' of land lost below HWM to the Crown under common law, the *Real Property Act 1900* (NSW) contains explicit provisions whereby the Registrar General may, if he becomes aware of an error in the title of any parcel of land, cause the title to be amended.[263]

These procedures would normally involve giving notice to the title holder, of an intention to amend the description, and/or plan, of the property.[264]

Land reverts to the Crown under the principle of escheat

Because the title of land lost below HWM through erosion or diluvion, reverts to the Crown, it is likely that this transfer occurs through the principle of 'escheat',[265] a

[259] *Attorney General (UK) v Chambers* (1854) 4 De G & J 55, Lord Chelmsford at 68, was quoted in *Attorney General of Southern Nigeria v John Holt & Co* (1915) AC 599, by Lord Shaw at 614.
[260] *Attorney General (UK) v Chambers* (1854) 4 De G & J 55, Lord Chelmsford at 68.
[261] In *Southern Centre of Theosophy Incorporated v South Australia* [1982] 1 All ER 283, Lord Wilberforce, at 291, referred to Hall's *Essay on the Sea Shore* (1830) and observed that 'a contribution has been made by the idea that an addition to land may be too minute and valueless to appear worthy of legal dispute or separate ownership…' and he cited *Williams v Booth* (1910) 10 CLR 341, where O'Connor J, at 356, quoted Hall's *Essay,* 2nd ed at 117.
[262] In NSW, the vendor is required to provide to prospective purchasers accurate information on all relevant matters relating the property and is under an obligation to show good title to land offered for sale, see ss.52A and 53 of the *Conveyancing Act 1919* (NSW). Errors or inaccuracies in information relating to the land title, such as out of date council certificates, may result in the contract of sale failing: e.g. *Copmar Holdings PL v Commonwealth* (1988) 4 BPR 9673.
[263] Section 136(1)(a) of the *Real Property Act 1900* (NSW)./
[264] Section 136(1) of the *Real Property Act 1900* (NSW).
[265] LegalOnline *The Laws of Australia,* Government > Executive > Executive Authority > Executive Powers, Immunities and Proprietary Prerogatives > Proprietary Prerogatives [19.3.800] [19.3.810] as at 18 May 2011.

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 effect 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,* Government > Executive > Executive Authority > Executive Powers, Immunities and Proprietary Prerogatives > Proprietary Prerogatives [19.3.810].

[268] Such as treason or lack of an heir. Ibid. [19.3.810].

[269] LexisNexis *Halbury's Laws of Australia* 355 Real Property (I) Introduction (I) Historical Foundation of Real Property in Australia (E) Doctrine of Tenure [355-75]. See also the discussion of the doctrine of escheat by Peter Butt *Land Law* (6th ed 2010) at 83-7.

[270] Peter Butt *Land Law* (6th ed 2010) at 84.

[271] Ibid at 85.

[272] LegalOnline *The Laws of Australia,* Government > Executive > Executive Authority > Executive Powers, Immunities and Proprietary Prerogatives > Proprietary Prerogatives at [19.3.810] fn13, as at 18 May 2011.

[273] *Brighton & Hove General Gas Co v Hove Bungalows Ltd* [1924] 1 Ch 372, Romer J at 390.

[274] In *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 16,655, Bannon J at 13,658 said 'If the property delineated by metes and bounds had been lost by sudden intrusion, no doubt the owners would have been entitled, subject to any environmental law, to attempt to reclaim their properties by building sea walls and groynes'. By environmental law Bannon J was no doubt referring to the need to obtain relevant approvals for such works from local and state governments under relevant NSW legislation including the *Environmental Planning and Assessment Act 1979* (NSW) and the *Coastal Protection Act 1979* (NSW). Bannon J's explicit

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] The construction of new higher sea walls and groynes may not be practical or cost effective given storminess is likely to increase and coastal erosion and rising sea levels are likely to continue for centuries beyond 2100.

[276] *Trafford v Thrower* (1929) 45 TLR 502, Eve J at 502.

[277] *Attorney General of Southern Nigeria v John Holt & Co* [1915] Lord Shaw at 615.

[278] Ibid at 616.

[279] Ibid at 615.

[280] *Doebbeling v Hall* (1925) 274 SW 1049, 41 ALR 382. Graves J at 389.

[281] Peter Butt, *Land Law* (6th ed 2010) [2 33] at 26. Other natural boundaries could be a cliff-line, or a line of vegetation.

[282] The term 'ambulatory' was first used in *Verrall v Nott* (1939) 39 SR(NSW) 89, by Williams KC counsel for the plaintiff, at 92, and was adopted by Nicholas J at 97.

[283] *Scratton v Brown* (1825) 4 B & Cr 485, Bayley J at 498; *Verrall v Nott* (1939) 39 SR(NSW) 89 at 97.

[284] This was the situation considered in *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655.

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* (NSW) has been held to mean that real property does not extend beyond the high-water mark.[287] Further, the court has ruled that land which comes to lie below HWM is not part of a parcel of land unless the certificate of title specifically states this.[288]

Even where a property originally had a 'right-line' boundary defined by survey, measurements are not ultimately definitive of the location of the legal boundary.[289]

Titles to land, whose original right-line boundaries have been crossed by an ambulatory boundary, become 'erroneous ex-post facto'[290] and should be corrected.[291]

Thus a 'right-line' boundary cannot persist if crossed by an ambulatory boundary.[292]

Natural boundaries have the highest precedence

Further, where there is an inconsistency in a title deed or instrument of conveyance, between a description of a property boundary by abuttal (i.e. by reference to a natural feature e.g. bounded by the sea or a river) and surveyed measurements, the abuttal has been held to be the superior and definitive description, despite the inclusion of precise measurements.[293]

In such cases the initial description by abuttal is determinative[294] and the inconsistent measurements are disregarded under the application of the Latin maxim *falsa demonstratrio non nocet cum de corpore constat.*[295]

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[285] *Doebelling v Hall* (1925) 274 SW 1049, 41 ALR 382. Graves J ruled, at 389, that '[a]ll original lines submerged by a navigable stream cease to exist, and thereafter the relationship of all riparian lands and the river must be determined from the then conditions (both as to the actual then riparian lands and the river frontage) and not from previous conditions or previous relationship of the riparian lands and the river'. The cases *Naylor v Cox* 14 Mo. 243, and *Cox v Arnold* 129 Mo. 337, were cited as authorities. This rule of law applies equally to littoral land submerged by the sea.

[286] *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655 at Bannon J at 13,660.

[287] Ibid.

[288] Ibid at 13,659.

[289] Ibid. Bannon J, at 13,659, said '…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… Defined boundaries make no difference.'

[290] *Baalman and Wells, Land Titles Office Practice* 4th ed, para 7, cited in *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655, by Bannon J at 13,659.

[291] *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655, Bannon J at 13,659.

[292] *Doebelling v Hall* (1925) 274 SW 1049, 41 ALR 382. Graves J at 389.

[293]. *Small v Glen* (1880) 6 VLR 154, at 162.

[294] Ibid.

[295] 'A false description does not vitiate when there is no doubt as to the thing or person meant.' Peter Butt (ed) *LexisNexis Concise Australian Law Dictionary* (4th ed 2011) at 231. See for e.g. *Morrell v Fisher* (1849) 4 Exch 591 and *Small v Glen* (1880) 6 VLR 154, at 162. The maxim and the application of this rule were discussed in detail in *Watcham v East Africa Protectorate* [1919] AC 533, by Lord Atkinson at 540-6.

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]

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[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 *On Waters* (3rd ed) par 155 at 308, 'When a fresh river changes its course and its center, even a lot not originally riparian may become so by such change and acquire the riparian right to accretions'.

[310] In *Attorney General of Southern Nigeria v John Holt & Co* (1915) AC 599, Lord Shaw at 621 refers to 'foreshore rights'.

[311] *Yearsely v Gipple* (1919) 104 Neb 88; 1919 Neb. LEXIS 187. See also *Doebbeling v Hall* (1925) 41 ALR 382, Graves J at 389.

[312] *Doebbeling v Hall* (1925) 41 ALR 382. Graves J, at 389, cited as authority for this ruling *Widdecombe v Chiles,* 173 Mo. loc. cit. 200, 96 Am. St. Rep. 507, 73 SW 444; *Cooley v Golden* 117 Mo. loc. cit. 48 et seq, 23 SW 100 and *Frank v Goddin* 193 Mo loc. Cit. 395, 91 SW 1057.

[313] Ibid. Graves J, at 391, upheld the rejection of the title deed of an allottment of land wholly washed away as providing evidence of landholding, because the court held 'there was no dispute that lot No.2 had been swept away for years prior to 1895.' The court said that 'when these accretions began to form, there was no lot No.2'.

[314] Ibid at 389.

[315] Sir Matthew Hale, *De Jure Maris et Brachiorum Ejusdem'* (c.1667) Chapter XV, at 370-413 in Stuart A Moore, *A History of the Foreshore and the Law relating thereto'* (1888).

> And note, here is no custom at all alledged;(sic) but it seems he relied upon the common right of his case, that as he suffered the loss so he should enjoy the benefit, even by the bare common law in the case of alluvion'.[317]

Though he did not express it as the 'principle of no compensation', Baron Alderson in *Re Hull and Selby Railway Coy* (1839)[318] when affirming the decision of his brother judge Lord Arbinger CB, recited the reciprocal nature of the doctrine of accretion as it operates as dereliction and diluvion, and concluded

> The principle laid down by Lord Hale, that the party who suffers the loss shall be entitled also to the benefit, governs and decides the question.[319]

The principle was further, albeit obliquely, recognized in *Attorney General (Ireland) v McCarthy* (1911) where Gibson J, in declining to 'discuss the explanation of the doctrine of imperceptible accretion in English law', referred briefly to

> 'the principle of compensation,[320] there being a reciprocity of possible loss and possible gain'.[321]

This principle was affirmed by the Privy Council in *Attorney of Southern Nigeria v John Holt & Coy* (1915).[322] In this case, Lord Shaw recited the judgment of Alderson B in *Re Hull and Selby Railway Co* (1939) which adopted Lord Hale's principle,[323] and quoted Lord Chelmsford in *Attorney General v Chambers, AG v Rees* (1859)

> It must always be borne in mind that the owner of lands does not derive benefit alone, but may suffer loss from the operation of this rule;[324]

In each of these cases, when they refer to this principle of compensation, the learned judges conclude that no compensation is payable for the loss or gain of land.[325]

The principle is seen to operate as a double sided[326] rule, whereby a landholder may either gain or lose land without payment of any compensation being due.

This principle was stated differently, to the same effect, in the United States

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[316] The case was probably decided in 1372 and is cited by Hale as Trin. 43 E.3, Rot.13 in Scaccario.
[317] Sir Matthew Hale, *De Jure Maris et Brachiorum Ejusdem'* (c.1667) Chapter XV at 396, in Stuart A Moore, *A History of the Foreshore and the Law relating thereto'*(1888).
[318] *Re Hull and Selby Railway Coy* (1839) 5 M & W 328.
[319] *Re Hull and Selby Railway Coy* (1839) 5 M & W 328 at 333.
[320] *Attorney General (Ireland) v McCarthy* [1911] 2 IR 260 at 295.
[321] Ibid at 296.
[322] *Attorney General (Southern Nigeria) v John Holt & Co* (1915) AC 599.
[323] Ibid at 614.
[324] *Attorney General v Chambers, AG v Rees* (1859) 4 De G & J 55 at 68.
[325] That no compensation is payable is evident from the comment of Lord Chelmsford in *Attorney General v Chambers, AG v Rees* (1859) 4 DE G & J 55, at 68, that '… if the sea gradually steals upon the land, he loses so much of his property, which is thus silently transferred by the law to the proprietor of the seashore.'
[326] *Attorney General of Southern Nigeria v John Holt & Company* (1915) AC 599. Lord Shaw, at 614, quoted Alderson B from *Re Hull & Selby Railway* (1839) 5 M&W 327, at 332-333 as having 'dwelt upon the double sided operation of the rule', and asserted that 'Lord Chelmsford refers to the double-sided operation of the rule' in *Attorney General (UK) v Chambers* (1854) 4 De G & J 55, at 68. The phrase 'double-sided operation of the rule' is coined by Shaw, not Alderson or Chelmsford.

> 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.

Current statue law offers no compensation

As well as the absence of any authority supporting the payment of compensation in the many common law decisions,[328] the statute law also offers no scope for the payment of compensation for lands lost to erosion or diluvion.

In NSW, under the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) no compensation is payable by the State because no action of the State is involved.

The provisions of the Act authorise the acquisition of private land by 'an authority of the State' if authorised by specific legislation.[329] The scheme of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW) requires an authority to adopt a 'proposal to acquire land' and to give notice of the proposed acquisition to the owner.[330] Such notice must guarantee that 'the amount of compensation will not be less than the market value'[331] and include other relevant particulars.[332]

However, it appears that the eligibility for compensation on just terms provided by s.10(1) is not triggered if a 'proposal to acquire' has not been adopted by an authority.

The acquisition of private land by the State through the reversion of title to the Crown under surviving common law does not require 'an authority of the State' to be authorised by legislation and thus no 'proposal to acquire' is required to be formulated.

Because it is by the action of the sea that private land is taken 'gradually, slowly and imperceptibly', either by erosion or diluvion, and not through a decision taken by the State, the Act is not triggered and the lost land is 'silently transferred by the law' to the State of New South Wales without compensation.

In Queensland, the *Acquisition of Land Act 1967* (Qld) operates in a similar way.

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[327] *New Orleans v United States* (1836) 10 Peters US 662; 35 US 622; quoted in *Yearsley v Gipple* (1919) 104 Neb. 88; 1919 Neb. LEXIS 187, at [***4].
[328] LexisNexis *Halsbury's Laws of Australia* 355 Real Property, II Creation and Acquisition (6) Compulsory Acquisition (D) Compensation (I) Nature of Right at [355-7085].
[329] S.5 of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).
[330] Ss.11 & 12 of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).
[331] See ss.10(1), 54, 56(2) of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).
[332] S.15 of the *Land Acquisition (Just Terms Compensation) Act 1991* (NSW).

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[335] may be served by a landowner on the relevant authority[336] and the amount of compensation is assessed according to a range of factors.[337]

However, just as in NSW, the Queensland legislation would appear not to apply if no relevant authority forms an intention to resume land and no relevant notice is given.

Because s.9 of the *Land Act 1994* (Qld) stipulates that 'all land below high-water mark … is the property of the State', the formation of an intention to resume land lost below HWM is unnecessary. Like in NSW, it is the action of the sea which relevantly takes private land below HWM and not a decision or action of the Queensland State government or another authority.

Thus the provisions of the *Acquisition of Land Act 1967* (Qld) are not triggered and no compensation is payable for land lost to the sea below HWM in Queensland.

Likewise, no compensation is payable under the *Land Titles Act 1967* (Qld) for a loss of land arising from the registration of, or failure to register, an amended tidal boundary in new plan of sub-division.[338]

The court's view of a 'right' to compensation

The ability of states, and in particular the State of New South Wales, to acquire private property without compensation on just terms was considered closely by the High Court of Australia in *Durham Holdings PL v The State of New South Wales.*[339]

The court held that while it is 'normally' accepted legal convention that the Crown would pay just compensation if it compulsorily acquired private property,[340] this convention was not necessarily binding on State governments and a person or corporation has no absolute 'right' to compensation[341] by the Crown if it compulsorily acquires private property under an Act of Parliament.[342]

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[333] S.5 of the *Acquisition of Land Act 1967* (Qld)
[334] See s.7 of the *Acquisition of Land Act 1967* (Qld).
[335] under s.12 or s.18 of the *Acquisition of Land Act 1967* (Qld).
[336] S.19 of the *Acquisition of Land Act 1967* (Qld).
[337] S.20 of the *Acquisition of Land Act 1967* (Qld)
[338] See s.191F of the *Land Titles Act 1994* (Qld).
[339] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436. The property acquired in this case were coal leases over an area of land dedicated as a national park.
[340] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436, Kirby J at 17.
[341] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436. The majority decision of Gaudron, McHugh, Gummow and Hayne JJ, at [12], affirmed the decision of the NSW Court of Appeal and quoted from it: 'The [applicant] was unable to point to any judicial pronouncements, let alone a decided case, which indicated, at any time, that any such principle existed in the common law of England, or of the colonies of Australasia, or of Australia'.
[342] Ibid, Kirby J at [56], observed that '…so far as the powers of a Parliament of State of Australia to permit the acquisition of property without the payment of compensation are concerned, a long line of opinions of the Court upholds the existence of that power'. The relevant footnote cited *Pye v Renshaw* (1951) 84 CLR 58, at 79-80; *Minister for Lands (NSW) v Pye* (1953) 87 CKLR 469 at 486;cf *PJ Magennis Pty Ltd v The Commonwealth* (1949) 80 CLR 382 at 405.

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 powers of the states have been given the 'widest possible operation'.[350]

The court found that there is no provision similar to s.51(xxxi) of the *Commonwealth Constitution Act 1901* (Cth) in the Commonwealth Constitution which requires the acquisition of private property by state governments to be compensated under just terms,[351] and the court noted that the 1988 referendum, which attempted to amend the Commonwealth Constitution to introduce such a clause, had failed.[352]

Thus it is clear the implied right to claim compensation for the acquisition of private property on just terms from the Commonwealth government, provided by s.51(xxxi) of the Commonwealth Constitution, does not apply to such acquisitions by the states of New South Wales and Queensland.

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[343] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436, Kirby J at [57] cited *Mabo v Queensland* (1988) 166 CLR 186. In this case the *Queensland Coast Islands Declaratory Act 1985* (Qld) which acquired the native title rights to the Murray Islands without compensation, was held to be constitutionally valid.

[344] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436. Kirby J at [33] referred to s.6(1) of the *Coal Acquisition Act 1981* (NSW).

[345] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436, Kirby J at [36]. The arrangements for capped compensation were made possible by the *Coal Acquisition (Amendment) Act 1990* (NSW) which inserted s.6(3) into the *Coal Acquisition Act 1981* (NSW).

[346] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436, Kirby J at [56].

[347] *Commonwealth Constitution Act 1901* (Cth).

[348] S.51(xxxi) *Commonwealth Constitution Act 1901* (Cth).

[349] See for e.g. *Newcrest Mining (WA) Ltd v Commonwealth* (1997) 147 ALR 42.

[350] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436. Kirby J at [55] cited as authority for this statement *Union Steamship Co of Australia v King* (1988) 166 CLR 1, at 9.

[351] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436, Kirby J at [56].

[352] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436, Kirby J at [63].

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.*

[356] For e.g. *Pumpelly v Green Bay & Mississippi Canal Co* (1871) 80 US (13 Wall) 166 at 181; *County of St. Clair v Lovingston* (1874) 90 US (23 Wall.) 46, *Shively v Bowlby* (1894) 152 US 1; *Nolan v California Coastal Commission* (1987) 438 US 825 at 831; *Lucas v South Carolina Coastal Council* (1991) 502 US 996; *Lucas v South Carolina Coastal Council* (1992) 505 US 1003; cited in James G Titus, 'Rising Seas, Coastal Erosion, and the Takings Clause: How to save wetlands and beaches without hurting property owners' (1998) 57 *Maryland Law Review* 1279-1399, at 1334-1339.

[357] For e.g. see Kenneth Roberts, 'The *Luttes* Case – Locating the Boundary of the Seashore' (1960) 12 *Baylor Law Review* 141-174. See also Peter K Nunez, 'Fluctuating Shorelines and Tidal Boundaries: An Unresolved Problem' (1969) 6 *San Diego Law review* 447-469; Alfred A. Porro Jr., 'Invisible Boundary – Private and Sovereign Marshland Interests' (1970) 3 *Natural Resources Law* 512-520; William Gordon Hayter, 'Implied Dedication in California: A Need for legislative Reform' (1970-1971) 7 *California Western Law Review* 259-271; Richard E Llewellyn, 'The Common law doctrine of implied dedication and its effect on the California Coastline property Owner': *Gion v City of Santa Cruz* ' (1971) 4 *Loyola University Law Review (Loy ULAL Review)* 438-448; Allan N Littman, 'Tidelands: Trusts, Easements, Custom and Implied Dedication' (1977-1978) 10 *Natural Resources Law* 279-296; Richard Hamann, and Jeff Wade, ' Ordinary High Water Line Determination: Legal Issues' (1990) 42 *Florida Law Review* 323; Robert L 'Fischman, Global Warming and Property Interests: Preserving Coastal Wetlands as Sea levels rise' (1991) 19 *Hofstra Law Review* 565-602; Theodore Steinberg, 'God's Terminus: Boundaries, Nature, And Property on the Michigan Shore' (1993) 37 *American Journal of Legal History* 65-90; Eileen L Shea & Milen F Dyoulgerov, 'Responding to climate variability and change: opportunities for integrated coastal management in the Pacific Rim' (1997) 37 *Ocean & Coastal Management* 109-121; Robert Thompson, 'Affordable twenty-four hour coastal access: Can we save a working stiff's place in paradise?' (2006-2007) *Ocean & Coastal Law Journal* 91-132.

[358] See the discussion of this in *Newcrest Mining (WA) PL v Commonwealth* (1997) 147 ALR 42, by Kirby J at 148-150.

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.
[362] Ibid.
[363] However, according to Simon Evans 'Property and the Drafting of the Australian Constitution' (2001) 29(2) *Federal Law Review* 121, at 125 fn9, the Commonwealth is 'able to regulate property to some extent under other heads of legislative power' such as s.51 (xxvi) re indigenous property rights and s.51(xxix) international treaty obligations'.

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]

Common law, or judge made law, while said to be declarative of the existing law, is not static and may be developed or extended to meet new applications.[367] Further, even though it is long-standing, common law may be over-ruled by the passage of legislation which modifies or repeals earlier common law rules or procedures.[368]

However, it is a convention of statutory interpretation that where legislation amends the common law it does so only to the extent stated in the relevant provisions.[369]

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[364] Catriona Cook, et al eds *Laying Down the Law* (7th ed 2009) at 92.
[365] Ibid.
[366] Peter Butt (ed) *LexisNexis Concise Australian Legal Dictionary* (1998) at 553, notes that 'the term [statutes] may also be used to refer to all forms of legislation, whether promulgated by a legislature or made by another body under the authority of the legislature.'
[367] E.g. The doctrine of accretion was extended to encompass accretions formed, in part, by the action of the wind through the deposition of wind-blown sand, in *Southern Centre of Theosophy Incorporated v South Australia* ([1982] 1 All ER 283, Lord Wilberforce at 290.
[368] *Falkner v Gisborne District Council* (1995) 3 NZLR 622, Barker J at [*29], [*33]. See also Catriona Cook, et al eds *Laying Down the Law* (7th ed 2009) at 92.
[369] *Durham Holdings PL v State of New South Wales* (2001) 177 ALR 436, Kirby J at [30].

Consequently, those parts of the common law not expressly extinguished by statute law may survive and continue as law, albeit in a modified form.[370]

It follows that, where the relevant legislation sets out a requirement and a procedure for obtaining development consent for substantial works, such as construction of a dwelling or coastal protection structures, any common law rights or rules inconsistent with the legislation, which may have existed previously, no longer apply – the provisions of the relevant statute apply.[371]

Given this understanding of the fundamental nature of the relationship between common law and statute law, it cannot be viably asserted that common law rights persist where a statutory scheme has been deliberately created by the Parliament to govern a particular set of circumstances.

CONSIDERATION 2

There is no common law right to defend against the sea in Australia.

This legal consideration makes it clear that a claimed common law 'right' to defend one's land from the sea cannot persist against the provisions of current statutes.[372]

The defence of the realm against the inroads of the sea was originally part of the King's royal prerogative.[373] This royal duty was said to impose an imperfect obligation on the Crown.[374] As an imperfect obligation, it gave a subject only an imperfect 'right' since, at that time in England, there were no means to enforce this 'right' against the Crown.[375]

Later this royal prerogative came to be exercised on the English Crown's behalf by Commissioners for Sewers,[376] under the relevant English statute, enacted c.1532.[377]

Bayley J's decision in *Rex v Commissioners of Sewers for Pagham* in 1828 that

> '… every land-owner exposed to the inroads of the sea has a right to protect himself, and is justified in making and erecting such works as are necessary for that purpose'[378]

was subsequently reported in *Halbury's Laws of England* as

> 'at common law a subject might erect groynes or such other defences as were necessary for the protection of his land on the coast, even if such erections have the effect of rendering it necessary for his neighbour to do the same'…[379]

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[370] An example of this is the insertion of s.55N into the *Coastal Protection Act 1979* (NSW).
[371] *Falkner v Gisborne District Council* [1995] 3 NZLR 622, Barker J at [*33].
[372] *Falkner v Gisborne District Council* [1995] 3 NZLR 622, Barker J at [*33].
[373] *Hudson v Tabor* (1877) 2 QBD 290, Lord Coleridge at 294. *Falkner v Gisborne District Council* [1995] 3 NZLR 622, 1995 LZLR LEXIS 793, Barker J at [*33].
[374] *Attorney General (UK) v Tomline* (1880) 14 Ch 58, Brett LJ at 66.
[375] Ibid.
[376] See for e.g. *Rex v Commissioners of Sewers for Pagham* (1828) 8 B & C 355.
[377] The statute 23 Hen. VIII c.5 was quoted in *Attorney General (UK) v Tomline* (1880) 14 Ch 58, by Brett LJ at 66. See also Robert Callis' lecture in 1622 to Gray's Inn, *Upon the Statute of Sewers, 23 Henry VIII, c.5* (first published 1647, 4th ed 1824). See < http://books.google.com.au/books?hl=en&lr=&id=7yIzAAAAIAAJ&oi=fnd&pg=PA51&dq=Callis+On+Sewers&ots=0F2RycAmzh&sig=8pioN7oLykfCIEWS-ZFApqYmDRg#vonepage&q=&f=true >
[378] *Rex v Commissioners of Sewers for Pagham* (1828) 8 B & C 355, at 361.
[379] *Halbury's Laws of England* (4th ed 1977) Vol. 6, par 321, quoted in *Falkner v Gisborne District Council* [1995] 3 NZLR 622, by Barker J at [*24].

However these declarations of law only confirmed the existence of the 'right' in England at that time, before the enactment of the *Coast Protection Act 1949* (UK)[380] and they do not represent the current applicable law in Australia or elsewhere.

Interestingly, while the court has held that a land owner cannot lawfully remove the barrier which protects adjacent land from the sea, due to the adjacent landowner's 'correlative right' to have their land protected by that barrier,[381] the court has also ruled that a private land owner cannot compel another to build or maintain defences against the sea, to protect their land.[382]

The Crown's 'duty' to protect, and a private land owner's 'right' to protection, from coastal erosion was closely considered by the New Zealand High Court in 1995.[383]

In that case Barker J examined whether the Crown's duty and the claimed 'right' under English common law had become part of the law of New Zealand and determined that they had.[384] He concluded that the common law duty and right were applicable in New Zealand, 'unless affected by a New Zealand statute'.[385]

Barker J considered whether this duty and right had been affected by a New Zealand statute, and found that the *Resource Management Act 1991* (NZ) did affect this duty and right, supplanting the common law with a new

> 'comprehensive, interrelated system of rules, plans, policy statements and procedures, all guided by the touchstone of sustainable management of resources'.[386]

Barker J ruled

> that '… where pre-existing common law rights are inconsistent with the Act's scheme, those rights will no longer be applicable. Clearly a unilateral right to protect one's property from the sea is inconsistent with the resource consent procedure envisaged by the Act; accordingly, any protection works proposed by the residents must be subject to that procedure'.[387]

Further, he said

> …there is nothing in the Act to suggest that the common law right cannot be infringed – quite the reverse. The Act is simply not about the vindication of personal property rights, but about the sustainable management of resources. … the governing philosophy of sustainability does not of itself require the protection of individuals' property to be weighed more heavily than the protection of the environment and the public interest generally.[388]

Barker J made plain the relationship between the statute law and the common law when he said

> [t]he relevant statute … deliberately sets in place a coherent scheme in which the concept of sustainable management takes priority over private property rights'.

[380] *Falkner v Gisborne District Council* (1995) 3 NZLR 622, Barker J at [*29].
[381] *Attorney General (UK) v Tomline* (1880) 14 Ch 58, Brett LJ at 67.
[382] *Hudson v Tabor* (1877) 2 QBD 290, Lord Coleridge at 292, cited in *Attorney General (UK) v Tomline* (1880) 14 Ch 58, by Brett LJ at 65.
[383] *Faulkner v Gisborne District Council* [1995] 3 NZLR 622.
[384] Ibid, Barker J at [*15].
[385] Ibid.
[386] *Faulkner v Gisborne District Council* [1995] 3 NZLR 622, Barker J at [*31]-[*32].
[387] Ibid, Barker J at [*33].
[388] Ibid, Barker J at [*34].

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 natural and ordinary meaning of that word', noted that the term suggested 'the forcible taking of possession, capture or confiscation' and 'some sort of human agency rather than of a gradual process of nature'[390] and concluded that a claim to compensation under the relevant New Zealand legislation,[391] would not succeed.[392]

The situation is substantially the same in New South Wales.

English property law, which included the Crown's duty and the subject's 'right' to defend private property against the ingress of the sea, was imported into the colony of New South Wales as part of the applicable English common law,[393] in much the same way as it had been imported into New Zealand law.[394]

However, it is apparent that just as in New Zealand, this common law duty and right have subsequently been supplanted in NSW by relevant legislation,[395] whose objects also include the sustainable management of resources[396] and whose provisions also include relevant rules, plans, policy statements and procedures.

As a result of the enactment of this legislation, it is clear that in NSW the original Crown duty and subject's right have also been extinguished.

Under NSW law coastal hazards such as coastal erosion and shoreline recession are managed by local councils using Coastal Zone Management Plans (CZMPs)[397] and any coastal protection works must be the subject of a development application and an environmental impact assessment and receive local and state government approvals prior to construction.[398]

Though emergency coastal protection works are exempted from the requirement to first obtain a regulatory approval,[399] such works require the issue of a certificate [400] by an authorised officer of the local council or the Director-General.[401]

Such certificates may be issued unconditionally or subject to conditions,[402] but are subject to other statutory provisions.[403]

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[389] Ibid, Barker J at [*35].
[390] Ibid, Barker J at [*36].
[391] s.21 of the *New Zealand Bill of Rights Act 1990* (NZ).
[392] *Faulkner v Gisborne District Council* [1995] 3 NZLR 622, Barker J at [*37], [*38].
[393] See *Cooper v Stuart* [1889] 14 App Cases 286, Lord Watson at 291.
[394] *Falkner v Gisborne District Council* [1995] 3 NZLR 622, Barker J at [*12]-[*14].
[395] *Environmental Planning and Assessment Act 1979* (NSW) and *Coastal Protection Act 1979* (NSW).
[396] See ss.5(a) (i) & (vi) of the *Environmental Planning and Assessment Act 1979* (NSW) and s.3(b) of the *Coastal Protection Act 1979* (NSW).
[397] prepared under Part 4A, s.55B *et seq* of the *Coastal Protection Act 1979* (NSW).
[398] See ss.38, 39 & 80 of the *Environmental Planning and Assessment Act 1979* (NSW) and s.55M of the *Coastal Protection Act 1979* (NSW).
[399] See s.55O of the *Coastal Protection Act 1979* (NSW).
[400] under s.55T of the *Coastal Protection Act 1979* (NSW).
[401] See s.55T(2) of the *Coastal Protection Act 1979* (NSW).
[402] S.55T(3) of the *Coastal Protection Act 1979* (NSW).

The provisions of these statutes are determinative and they define the rules for the approval of the construction of coastal defensive works in NSW, not the common law.

In Queensland it is likely that English common law was introduced in the same way, but now a similar scheme of subsequent state legislation applies.

Coastal land is managed by the Queensland State Government through Coastal Management Plans.[404] and may be declared part of an 'erosion prone area'.[405] Coastal protection works must be approved by local and state governments.[406]

As a consequence of the enactment of these legislative schemes, landowners in NSW and Queensland do not have a continuing common law 'right' to erect defences against the ingress of the sea.

CONSIDERATION 3

Coastal erosion may create a legal liability for Councils.

This is a relevant legal consideration because private land owners may seek to assert that the local council owes them a 'duty of care' which obliges the council to intervene if their properties are affected by coastal erosion.[407]

Some landowners may even assert that a failure by a council to intervene and 'rescue' the landowner from coastal erosion creates a legal liability for council.[408]

This area of law, the legal liability of public authorities, is vast and complex.[409]

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[403] See ss.55P – 55S and s.55ZC of the *Coastal Protection Act 1979* (NSW).

[404] State coastal management plans operate under ss.30-34 and regional coastal management plans under ss.35-41 of the *Coastal Protection and Management Act 1995* (Qld).

[405] Under s.70(1) of the *Coastal Protection and Management Act 1995* (Qld).

[406] See s.238 of the *Sustainable Planning Act 2005* (Qld); s.100 of the *Coastal Protection and Management Act 1995* (Qld).

[407] see Environmental Defenders Office (EDO) *Coastal Councils Planning for Climate Change: An assessment of Australian and NSW legislation and government policy provisions in relation to climate change relevant to regional and metropolitan NSW coastal councils* (2008) Report prepared for Sydney Coastal Councils Group Inc , at 25 *et seq.* < http://www.sydneycoastalcouncils.com.au/sites/default/files/coastalcouncilsplanningforclimatechange.pdf >

[408] Ibid at 28.

[409] See Zada Lipman, and Robert Stokes, 'Shifting Sands – The implications of climate change and a changing coastline for the private interests and public authorities in relation to waterfront land' (2003) 20(6) *EPLJ* 406-422; Geoff Gemmell and Douglas Sun 'Liability of public authorities' (2003) 9 *LGLJ* 21-33. Philippa England, *Climate Change: What Are Local Governments Liable For?* (2007) Griffith University Urban Research Program: Issues Paper 6; Jan McDonald, 'The adaptation imperative: Managing the legal risks of climate change impacts' (2007) 124-141, in Tim Bonyhady and Peter Christoff (eds.) *Climate Law in Australia* (2007) and Jan McDonald, 'A risky climate for decision-making: The liability of development authorities for climate change impacts' (2007) 24 *EPLJ* 405-416. See also the discussion of 'Liabilities of Local Authorities in Adapting to Climate Change', by Nicola Durrant in Chapter 20 *Legal Responses to Climate Change* (2010) at 289 *et seq.* and Environmental Defenders Office (EDO) *Coastal Councils Planning for Climate Change: An assessment of Australian and NSW legislation and government policy provisions in relation to climate change relevant to regional and metropolitan NSW coastal councils* (2008) Report prepared for Sydney Coastal Councils Group Inc.

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]

Provided that they acted in good faith when they granted development consent[412] and their decisions were 'reasonable', councils' exposure to liability is quite limited.[413]

The crucial test in determining the liability of councils managing coastal hazards is whether they have acted in 'good faith'[414] and the legislation provides that councils are taken to have acted in good faith if they have acted in accordance with the principles contained in the manual prescribed by the Act.[415]

For many years the relevant manual was the *NSW Coastline Management Manual 1990,*[416] but this was replaced with the *Guidelines for Preparing Coastal Zone Management Plans* in December 2010.[417] These *Guidelines* will be supported by a series of 'coastal management guide notes' according to the NSW government.[418]

If councils have acted 'in good faith' and followed the principles of the manual prescribed by the Act,[419] a formal exemption from liability is provided by the *Local Government Act 1993* (NSW).[420]

After some uncertainty as to the extent of this exemption, the operation of s.733 to protect a council from any liability, including an order of injunctive relief by a Court of Equity, was confirmed by the High Court of Australia in 2005.[421]

This decision, though focused on liability for flooding under s.733(1) appeared to put beyond further legal doubt any questions regarding council liability for coastal hazards under s.733(2), assuming that councils continue to act 'in good faith'.[422]

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[410] Environmental Defenders Office (NSW), *Coastal Councils Planning for Climate Change: An assessment of Australian and NSW legislation and government policy provisions in relation to climate change relevant to regional and metropolitan NSW coastal councils* (2008) Report prepared for Sydney Coastal Councils Group Inc: at 26.

[411] Ibid at 28-29. See also *Egger v Gosford Shire Council* (1989) 67 LGRA 304 discussed in Environmental Defenders Office (EDO) *Coastal Councils Planning for Climate Change: An assessment of Australian and NSW legislation and government policy provisions in relation to climate change relevant to regional and metropolitan NSW coastal councils* (2008) Report prepared for Sydney Coastal Councils Group Inc at 30-31.

[412] Ibid at 21-22.

[413] Ibid at 32.

[414] See s.733(2) of the *Local Government Act 1993* (NSW).

[415] S.733(4) of the *Local Government Act 1993* (NSW).

[416] NSW Government *Coastal Management Manual* (1990)

[417] NSW Government *Guidelines for Preparing Coastal Zone Management Plans* (2010) at 4. While the Minister adopted these *Guidelines* as the relevant guidelines under ss.55D of the *Coastal Protection Act 1979* (NSW) by Notice in the Government Gazette of 31 December 2010, no similar notice designating these *Guidelines* as 'the manual' under s.733(5)(b) appears to have been made.

[418] See < http://www.environment.nsw.gov.au/coasts/coastalmgtdocs.htm > at 29 February 2012.

[419] See s.733(5) of the *Local Government Act 1993* (NSW).

[420] S.733(2) of the *Local Government Act 1993* (NSW).

[421] *Bankstown City Council v Alamdo Holdings PL* [2005] HCA 46. See Gleeson CJ, Gummow, Hayne and Callinan JJ at [45], McHugh J at [62].

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 climate change relevant to regional and metropolitan NSW coastal councils* (2008) Report prepared for Sydney Coastal Councils Group Inc at 24.

[423] Nicola Durrant, *Legal Responses to Climate Change* (2010) at 291.

[424] See for e.g. *Melaleuca Estate PL v Port Stephens Council* (2006) 143 LGERA 319, cited by Nicola Durrant, *Legal Responses to Climate Change* (2010) at 292.

[425] Ibid. Durrant cited the 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) Recommendation 23 and chapter 4.

[426] See s.733(3)(b) and ss.733 (3)(f2)-(f6) of the *Local Government Act 1993* (NSW) as amended by Schedule 2, [5] and [6] of the *Coastal Protection and Other Legislation Amendment Act 2010* (NSW).

[427] It is difficult to say precisely how many local councils in NSW have gained an exemption from liability under s.733(2) because, since the abolition of the NSW Coastal Council in 2003, no state-wide report on the implementation of the NSW Coastal Policy generally, or the completion of coastline management plans by councils has been produced.

[428] See fn 399 above.

[429] E.g. Denis Culley 'Global Warming, Sea Level Rise and Tort' (2002-2003) 8 *Ocean & Coastal Law Journal* 91-125; Francis Tindale et al *The Law of Torts in Australia* (4th ed 2007); Environmental Defenders Office (EDO) *Coastal Councils Planning for Climate Change: An assessment of Australian and NSW legislation and government policy provisions in relation to climate change relevant to regional and metropolitan NSW coastal councils* (2008) Report prepared for Sydney Coastal Councils Group Inc at 21-35. See also the discussion of the implications of climate change for the Law of Torts by Nicola Durrant in *Legal Responses to Climate Change* (2010) at 269 *et seq.*

[430] But see discussion of the possibility of liability under tort law as declared by the Tuvalu Prime Minister by DJ Grossman, 'Warming up to a not-so-radical idea: Tort-based climate change

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 proof of ownership of land and of all other registered interests in the land.[436]

Put simply, indefeasibility of title means that the registered proprietor, whose name is recorded in the land title register, has primary claim to ownership of the land within the registered boundaries and needs no other proof of title.[437]

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litigation' (2003) 28(1) *Columbia Journal of Environmental Law* 1-61; RSJ Tol and R Verhayen 'State responsibility and compensation for climate change damages: A legal and economic assessment' (2004) 32 *Energy Policy* 1109-30; MR Allen and R Lord 'The blame game: Who will pay for the consequences of climate change?' (2004) 432 *Nature* 551-52; cited by Ambuj Sagar and Paul Baer in 'Inequities and Imbalances' in Steven H Schneider et al *Climate Change Science and Policy* (2010) at 258, fn25.

[431] The *Review of the Law of Negligence - Final Report* (2002) by a panel headed by David Ipp led to reforms in personal injury, death, and other forms of harm, by the passage of relevant legislation in all states, e.g. the *Civil Liabilities Act 2002* (NSW) and the *Civil Liabilities Act 2003* (Qld)

[432] See the discussion of the 'Common Law of Torts and Professional Liability' by Nicola Durrant, *Legal Responses to Climate Change* (2010) in Part IV, at 267 *et seq.* and 'Climate Change and Causation Issues' in Chapter 19 at 273 *et seq*.

[433] Torrens title legislation has been enacted in all Australian states: In NSW the *Real Property Act 1900* (NSW) applies; in Queensland the current statute is the *Land Title Act 1994* (Qld).

[434] Janice Gray, Brendan Edgeworth, Neil Foster and Scott Grattan *Property Law in New South Wales* (2nd ed 2007) at 289 [8.16]. See LexisNexis *Halsbury's Laws of Australia,* 355 Real Property, III Torrens System, (I) Torrens System (G) Protection of registered Proprietor, (I) Principle of Indefeasibility at [355-8155]. See also Legal Online *The Laws of Australia* Real Property > Torrens system – indefeasibility and priorities > Introduction > Definition at [28.3.1].

[435] LexisNexis *Halsbury's Laws of Australia,* 355 Real Property, III Torrens System, (I) Torrens System, (3) Purpose & Effect of Torrens system, [355-8010]. See also LegalOnline *The Laws of Australia* Real Property > Principles of Real Property > Nature of Proprietary Interest in land at [28.1.210].

[436] LexisNexis *Halsbury's Laws of Australia,* 355 Real Property, III Torrens System, (I) Torrens System (C) The Register at [355-8030]. See s.40(1), 40(1A) and s.42(1) of the *Real Property Act 1900* (NSW) and s.46 of the *Land Title Act 1994* (Qld).

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] such as erosion, which reduce its area.

Because this is so, all Torrens systems of registered titles, contain provisions which state that a certificate of title is not to be absolute as regards any portion of the land

[437] Legal Online *The Laws of Australia* Real Property > Torrens system – indefeasibility and priorities > Nature of indefeasibility > Introduction at [28.3.4]. See also Peter Butt (6th ed 2010) *Land Law* at 752, [20 15] *et seq.*

[438] LexisNexis *Halsbury's Laws of Australia,* 355 Real Property, III Torrens System, (I) Torrens System (C) The Register at [355-8020] fn6. See s.32B(2) of the *Real Property Act 1900* (NSW) and s.31 of the *Land Title Act 1994* (Qld). See the discussion of interests which may be registered on title in LexisNexis *Halsbury's Laws of Australia,* 355 Real Property, III Torrens System, (I) Torrens System (F) Registration of Interests and Dealings (I) Registrable Interests at [355-8115].

[439] See Peter Butt *Land Law* at (6th ed 2010) 743, [20 01] *et seq.*

[440] The *Real Property Act 1858* (SA), cited by Peter Butt *Land Law* (6th ed 2010) at 745, [20 04].

[441] See Legal Online *The Laws of Australia* Real Property > Torrens system – indefeasibility and priorities > Introduction > Definition at [28.3.1] fn7. See also LexisNexis *Halsbury's Laws of Australia,* 355 Real Property, III Torrens System, (I) Torrens System (A) History and Development at [355-8005].

[442] *Southern Centre of Theosophy Incorporated v South Australia* [1982] 1 All ER 283, at 287.

[443] 'As a matter of general principle, the indefeasible title of a registered proprietor does not extend to specific measurements contained upon the certificate of title...' See LexisNexis *Halsbury's Laws of Australia* 355 Real Property/III Torrens System/ (1) Torrens System/ (D) Powers and Duties of the Registrar, par [355-1400] at fn4.

[444] The concept of 'indefeasibility' is discussed in LexisNexis *Halsbury's Laws of Australia* 355 Real Property/III Torrens System/ (1) Torrens System/ (D) Powers and Duties of the Registrar, par [355-8155] at fn5.

[445] In *Environment Protection Authority v Eric Saunders and Leaghur Holding PL* [1994] 6 BPR 13,655, by Bannon J said, at 13,660, '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 …'

[446] Peter Butt *Land Law* (6th ed 2010) at 756, [20 20] cited *Boyton v Clancy* (1998) NSW ConvR 55-872 and *Comserv (No.1877) PL v Figtree Gardens Caravan Park* (1999) 9 BPR 16,791 at 16,796.

[447] *Environment Protection Authority v Eric Saunders and Leaghur Holding PL* [1994] 6 BPR 13,655, Bannon J, at 13,660. In *Hindson v Ashby* [1896] 2 Ch 1 CA, Lindley LJ referred to an earlier case and said, at 11, '*Scratton v Brown* (4 B & C 485) is a very important authority to shew (sic) that water boundaries of land may fluctuate in law as well as in fact.'

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.

However, that part of the land which comes to lie below the high water mark, through erosion or diluvion, is no longer considered 'real property'[455] and becomes instead part of the foreshore or bed of the tidal waters, owned by the Crown.[456]

There is no separate title to this lost land – as it falls below HWM it first becomes part of the foreshore held by the Crown under prior common law[457] and, as it falls below low-water mark, it becomes part of the submerged lands held by the State under Commonwealth legislation.[458]

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[448] Such as s.42(1)(c) of the *Real Property Act 1900* (NSW) and s.185(1)(g) of the *Land Title Act 1994* (Qld). Similar provisions for other jurisdictions are given in LexisNexis *Halsbury's Laws of Australia* 355 Real Property/VI Other /(2)Boundaries, Fences and Encroachments /(B) Boundaries for Land Abutting Water/(I) Tidal Water Boundaries, [355-14000], fn5.

[449] In Queensland, this position is designated as 'Registrar of Titles', under s.6(1) of the *Land Title Act 1994* (Qld). See LexisNexis *Halsbury's Laws of Australia* 355 Real Property/ III Torrens System/ (1) Torrens System/ (D) Powers and Duties of the Registrar, [355-8020].

[450] In NSW the Registrar General has power to correct errors under s.12(1)(d), 12(3)(c) of the *Real Property Act 1900* (NSW). In Queensland the Registrar of Titles' power to correct errors is under s.15 of the *Land Title Act 1994* (Qld). See LexisNexis *Halsbury's Laws of Australia* 355 Real Property/ III Torrens System/ (1) Torrens System/ (D) Powers and Duties of the Registrar, [355-8055].

[451] under s.135 of the *Real Property Act 1900* (NSW).

[452] In *Environment Protection Authority v Eric Saunders and Leaghur Holding PL* [1994] 6 BPR 13,655, Bannon J said, at 13,659, 'The Torrens was intended to provide certainty as to title, 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'.

[453] The Registrar General has power to require the production of documents for the purposes of cancellation or correction under s.136 of the *Real Property Act 1900* (NSW).

[454] 'The courts have on occasions denied that the power to correct errors is inconsistent with the concept of indefeasibility'. See LexisNexis *Halsbury's Laws of Australia* 355 Real Property/III Torrens System/ (1) Torrens System/ (D) Powers and Duties of the Registrar, [355-8060].

[455] In *Environment Protection Authority v Eric Saunders and Leaghur Holding PL* [1994] 6 BPR 13,655, Bannon J said, at 13,660, '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, in my opinion, it follows, land below High-water Mark in tidal estuaries (unless otherwise indicated on the Certificate of Title).

[456] According to Jacobs J in *State of New South Wales v The Commonwealth* (1975) 135 CLR 337, at 486; quoted in *Environment Protection Authority v Eric Saunders and Leaghur Holding PL* [1994] 6 BPR 13,655, by Bannon J at 13,659.

[457] *Environment Protection Authority v Eric Saunders and Leaghur Holding PL* [1994] 6 BPR 13,655, by Bannon J at 13,660.

[458] Under s.4 of the *Coastal Waters (State Title) Act 1980* (Cth).

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.[459]

The Court effectively extinguished these titles, by refusing to recognize them, ruling that

> 'in spite the Certificates of Title which became Exhibit AE, there was no land in the subdivision beyond High Water Mark'[460]

and recommended that the certificates of title

> 'need to be corrected pursuant to s.42 of the *Real Property Act 1900* (NSW)'.[461]

This decision was subsequently affirmed by the Court of Criminal Appeal in NSW.[462]

Allen J agreed that 'the relevant land had been lost to the sea, becoming part of the bed of the sea' and concurred with Bannon J's decision that the registered proprietor, Leaghur Holdings PL, 'did not own the land so taken back by the sea'.[463] Allen J said,

> 'His Honour found as a fact that the land lost to the sea was lost by 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.[464]

From this case it is clear that indefeasibility of title does not protect land from natural forces or provide permanency of land. Where the land ceases to exist as 'real property', due to diluvion or erosion, title to that part of the land below HWM is lost.[465]

Indefeasible title to the remaining land is preserved however in that no other person may claim ownership of it.

CONSIDERATION 5

Caveat emptor - Let the buyer beware![466]

Notwithstanding the obligation on the vendor to not mislead a potential purchaser when offering a property for sale,[467] it is a long held legal convention that a purchaser

[459] Ibid at 13,659.
[460] Ibid at 13,660.
[461] Ibid.
[462] *Environment Protection Authority v Leaghur Holdings* (1995] 87 LGERA 282.
[463] Ibid at 287.
[464] Ibid. Allen J at 287.
[465] Ibid.
[466] Peter Butt (ed) *LexisNexis Concise Australian Law Dictionary* (4th ed 2011) at 80.

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

In this section I briefly revisit the significant problems affecting shorelines and consider an important socio-political problem for shoreline law before I discuss several problems of shoreline law.

Problems for Australian shorelines

The principal problems currently affecting shorelines and coastal management generally relate to global climate change and its impacts on the Australia coast.

As indicated in section 2 of this paper, higher sea levels increased storminess and greater coastal erosion have the potential to transform the Australian coastline, disrupt or damage coastal eco-systems and produce significant adverse impacts on coastal biodiversity.

Higher sea levels and greater coastal erosion also have the potential to damage or destroy coastal land and other assets (whether publicly or privately owned), and drastically affect the social and economic activities of many coastal towns and cities.

The central problem for shorelines focussed on in this paper is the loss of valuable coastal land due to the impacts of higher sea levels and greater coastal erosion, and the implications of this for the land title of coastal properties.

While the principles of shoreline law above address many aspects of the impacts of erosion and inundation, I have identified several problems inherent in shoreline law.

Before I explore these problems of shoreline law it is apt to mention two important problems for shoreline law, related to its contemporary context of operation.

Problems for current Shoreline law

PROBLEM 1 – Private landowners may commence a 'storm of litigation'

One problem for shoreline law, and for managers of publicly owned coastal land, arising from this recognition of the wider impacts of higher sea levels and greater coastal erosion is that private property owners may not necessarily recognise, or care about, these other issues, because of the immediate and personal nature of the erosion problem confronting them.

This lack of overall perspective may well become a problem for shoreline law if private land owners seek to assert their individual private interests over, and at the exclusion of, other wider public interests in the coast, by commencing court proceedings which challenge the substance of the current shoreline law or its application to their particular circumstances.

Such proceedings may create problems for coastal land managers as well as for shoreline law, if landowners affected by higher sea levels and greater coastal erosion

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 Arts *Managing Our Coastal Zone in a Changing Climate – the time to act is now* (2009), at 147.

[474] See my comments in Principle 8 above correcting the errors of law made in the discussion of boundaries by BG Thom in *Beach Protection in NSW* (2003) 20(5) *EPLJ* 325, at 343.

Moreover, important authoritative decisions of the courts[475] which have clarified the operation of current shoreline law and provided answers to key questions, have received little or no attention or discussion in scholarly journals or reports.[476]

It is to be hoped that this paper goes some way to addressing this problem.

Problems of current shoreline law

The substance of current shoreline law poses a number of potential problems for its future application by the courts which may play out in the immediate future.

PROBLEM 3 – Current shoreline law has left some important questions open

One obvious problem of shoreline law is that some elements of the principles of current shoreline law use imprecise terms and the decisions of the court have left several 'vexed' questions open. These questions include:

* how 'gradual' must accretion or erosion be for the doctrine of accretion and the principles of shoreline law to apply?,

* how 'fast' or 'sudden' must coastal erosion or diluvion be in order for the doctrine of avulsion to apply?

* what do the terms 'slow' and 'imperceptible' mean in the 21st century?

* what is the relevance and application of new technologies such as satellite based remote sensing and global positioning systems (GPS) to the test of 'perceptibility'?[477]

The search for answers to these questions could form the basis of court proceedings brought by private land owners who are keen to clarify these matters.

PROBLEM 4 – Uncertain application under climate change conditions

A related problem of current shoreline law is that its applicability under climate change conditions is uncertain because it has not been tested before in Australian courts.

Though the relevant common law principles developed over many centuries,[478] and the doctrine of accretion's roots reach back thousands of years,[479] encompassing

[475] *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655, *Environment Protection Authority v Leaghur Holdings PL* (1995) 87 LGERA 282 (NSW Court of Criminal Appeal), or *Falkner v Gisborne District Council* [1995] 3 NZLR 622 (NZ High Court)

[476] For e.g. none of these landmark cases from 1994-5 were considered in the 1999 NSW Beach Management Inquiry, or discussed by BG Thom in *Beach Protection in NSW* (2003) 20(5) *EPLJ* 325-358. These cases were not cited or discussed in the House of Representatives Standing Committee report *Managing our coastal zone in a changing climate – the time to act is now* (2009).

[477] See for e.g. Werner G Hennecke, et al 'GIS-Based Coastal Behavior Modeling and Simulation of Potential Land and Property Loss: Implications of Sea-Level Rise at Collaroy / Narrabeen Beach, Sydney (Australia)' (2004) 32 *Coastal Management* 449-470; Ian L Turner, et al, 'Coastal Imaging Applications and Research in Australia' (2006) 22(1) *Journal of Coastal Research* 37-48.

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 *Lopez v Muddun Mohun Thakoor* [1870] 13 Moo Ind App 467, James J at 473; *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260, Palles CB at 277, *Attorney General (Southern Nigeria) v John Holt and Coy Ltd* [1915] AC 599, Lord Shaw at 613.

[480] See Michael J Tooley 'Sea-level change during the last 9,000 Years in North-West England' (1974) 140(1) *The Geographical Journal* 18-42.

* 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 statutory scheme created by the *New Zealand Bill of Rights Act 1990* (NZ), no compensation was payable by the Crown to the private

[481] *Falkner v Gisborne District Council* (1995) 3 NZLR 622, at [*36].
[482] based on concepts of social utility and public interest. Ibid at [*28].
[483] The prospect of losing their homes without compensation and without the ability to erect coastal protection works'. Ibid at [*38]

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.

Through such legislation, state governments may create a new statutory framework which anticipates future circumstances and institutes new policies, procedures and rules for dealing with land subject to inundation, diluvion and/or coastal erosion.

So, while the neither the statutes or common law offer any hope of compensation at all, that is not to say that the situation cannot change in the future, since it is possible for this matter to be addressed by specific state legislation.

Modern notions of equity, fairness, restorative justice and the need to balance parliamentary power and private rights have led to the development of an expectation that just compensation will be provided if the State compulsorily acquires private property, and these notions could provide the basis for such legislation.

Rather than only two options, compensation at full market value or no compensation at all, a 'middle path' which approves payments to coastal landowners affected by coastal erosion and creates other forms of assistance by the state government, but not on the basis of 'compensation', may appear a better balance of public and private interests and attract more political support.

To win support in Parliament any legislation which seeks to financially assist coastal landowners would have to balance the costs to the public purse and the public interests in, and uses of, the coast with the competing interests and costs of private land owners adversely affected by a matter beyond their control. Such legislation would need to look ahead to centuries of rising seas.

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[484] Ibid at [*37] , [*3]

[485] Ibid. Barker J, at [*36], 'expressed concern … that a seemingly insensitive application of a "managed retreat" policy, … ignored the fact that the discontinuance of protection works would seriously affect the viability in the long term and the marketability in the short term of the appellants' properties. Many of the appellants have invested their life savings in a Wainui beach property.'

[486] Ibid, at [*37].

To avoid a narrow approach which creates more problems than it solves, any legislation which deals with private property impacts would need to be part of an integrated policy and legal response by government which addresses the range of public interests affected by rising sea levels and greater coastal erosion, and which is itself part of a much wider response dealing with other climate change impacts.

Specific legislation which has the effect of preventing the need for costly and unproductive litigation would have the added benefit of allowing coastal land managers and policy makers the money, time and focus to address these other issues of law and policy related to higher sea levels and greater coastal erosion.

6/ Conclusions

I have drawn a number of conclusions from my research into the doctrine of accretion and from the principles of shoreline law described above.

My first conclusion is that the principles of shoreline law, can usefully inform policy makers and legislators of the legal conventions which the courts and parliaments have developed and applied to private property bounded by tidal waters, and to the arbitration of disputes between private rights and public uses in the coastal zone.

I conclude that these principles can guide the development of new laws to address the policy and legal issues raised by the loss of public and private land to the sea, due to higher sea levels and greater coastal erosion. In doing so, I note that these principles are not absolute rules whose use is mandatory or finally determinative, since Parliaments have the power to enact legislation which departs from them.

The second conclusion I've drawn is that the simple application of current shoreline law in a narrow legalistic approach cannot solve the policy and legal issues raised by higher sea levels and greater coastal erosion (or wider climate change impacts).

As well as impacts on private property and land title, these emerging issues include - but are not limited to - how to provide for:

* the maintenance of a geographic buffer to absorb natural fluctuations in coastline;

* public access to the beach and recreation use of the foreshore and coastal waters;

* public safety when coastal assets and areas are subject to various hazards;

* safe navigation in the state's coastal waters;

* the relocation of public infrastructure: such as roads, power, water, sewer;

* the retreat of species adversely affected by climate change impacts;

* survival of economically important species such as commercial fish;

* the continuation of coastal ecosystem services.

Current shoreline law is, at best, only marginally relevant to many of these issues.

Further, shoreline law, like other areas of law, is essentially backward looking. It can state what the law has been, and how recent legislation has modified the then law, but it does not indicate what should be done next, given the likelihood that large areas of coastal land will soon be lost to the sea, and, under the current principles of shoreline law, the owners will not be entitled to any compensation.

I have further concluded that a 'storm of litigation' by potentially dispossessed coastal landowners, which seeks to overturn the existing principles of shoreline law, may not succeed in gaining sought after objectives, but may only frustrate and impede the development of more considered responses.

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

A multi-disciplinary approach will be required, in which ecology, social policy and economic considerations interact to generate a suite of new policy and statute law responses. These responses could include new programs which change practice, priorities, staffing and funding levels; or new statutory schemes, amendments to planning instruments, regulations or ministerial directions.

Thus, in the future, instead of 'old law' dictating policy outcomes, new carefully weighted policies, aimed at achieving agreed ecologically sustainable outcomes, should signal what adjustments need to be made to the legal framework.

My final conclusion is that shoreline law will need to undergo further development if it is to effectively balance public and private interests in the coast and its resources and meet the challenges posed by higher sea levels and greater coastal erosion.

I have outlined some areas for the future development of positive shoreline law. Other suggestions will have to be the subject of a separate paper.

Discussion Questions

The following discussion questions, prepared for the original workshop, are presented here for completeness.

1* should State governments intervene to create new statute law(s) which address legal issues triggered by rising sea levels and in doing so extinguish common law doctrine?

2* should public funds be spent 'protecting', 'purchasing' or 'compensating' private property owners affected by increases in sea-level?

3* what other calls on the public purse are there? Which should have priority?

4* how can we manage, and address, the range of conflicting public and private interests in the development of our integrated adaptive responses?

5* apart from property law, what other areas of law and/or legal issues are affected by climate change and increases in sea-level in particular?

6* how can policy makers and public authorities integrate the range of adaptation responses required to deal with the range of public and private policy and legal issues raised by climate change?