Natural Boundaries, Legal Definitions
Making room for rivers

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Introduction
The legal definition of rivers has a significant impact on jurisdiction, management and responsibilities for rivers. Clearly rivers are of vital importance in the overall scheme of resource management, given the wide variety of statutory and policy statements about conservation, access and recreation on and adjacent to waterbodies. However, the statutes apply rather arbitrary and artificial definitions; dividing rivers into bed, banks, and water columns, and selecting three metre wide average as a defining dimension under which rivers seem to legally disappear. The common law makes various assumptions about navigability, ownership, and centreline divisions and about how rivers and their boundaries move. And underlying all this law exists the relationship that Māori have with rivers and water, which has only recently been recognised by legal authorities.1 Such legal divisions and the confusion and fragmentation of spaces and boundaries have no connection with ecological zones; cross-boundary conflict impedes conservation management. This chapter will explore this legal uncertainty of boundaries and ownership to demonstrate the disconnect with integrated management of river catchments.

Ecologists know that rivers represent a complex ecosystem of interconnected processes, and Māori consider their river as a whole and indivisible entity – from the mountains to the sea, carrying their own wairua. On the other hand, our legal system insists on fragmenting rivers spatially, definitionally, and proprietorially. Furthermore, political struggles continue between those who would have rivers and waters described as property, to be owned, traded and exploited under the control of owners, and those who see rivers and waters as part of the public commons, to be shared and cared for, and under the control of natural systems.

The legal aspects of rivers and waterways is worth examining so that we can begin to understand the disconnect between the legal river and the actual river. We need to make room for rivers in our legal and proprietorial conceptions. Dame Anne Salmond has described rivers
I have used the phrase ‘rebel rivers’ – both phrases acknowledge that rivers cannot be controlled by the law, at least not politically constructed law, rather that rivers are a law unto themselves.

Land as property defined in our cadastral system, is dependent on accurate and complete definition of boundaries, and a complete record of the property rights attaching to that land. Rivers, on the other hand, actually fall outside our property regime; rivers are not generally defined as cadastral parcels, but are usually illustrated (if illustrated at all) as land left over from the cadastral structure. Furthermore, the legal rules about ownership of rivers are confused and confusing. This means that rivers as legal parcels, disappear and re-emerge into and from private and public property boundaries. Similarly, the riparian reserves that may be set aside for conservation, recreation and access alongside rivers often do not remain connected with the rivers. Naturally flowing rivers change course regularly, legal boundaries tend to be fixed. Our property law is fundamentally at odds with environmental law in representing rivers.

To apply a more holistic view of rivers, we must work out how we make legal room for rivers? I will suggest towards the end of this chapter that there are some innovative ways that the law could be as flexible as rivers are, and some lessons we may learn from Māori about establishing a relationship of care (kaitiakitanga) with our rivers. I conclude that to facilitate better river management, cadastral boundaries should more flexibly accommodate river movements.

**What is the physical and legal extent of a river?**

Surveyors, our cadastral system, and the state are fixated on establishing boundaries, compartmentalising land and water, defining who owns what. Our property law and cadastral system are focused on defining land parcels to be allocated as property. However, within some sort of legal blind-spot, rivers do not exist as property, so they have not been defined as parcels.

From a surveying and a pragmatic point of view, it is the land parcel that needs to be defined, not the water parcel, the locational fix is to a point on the top of a river bank which might be assessed as only being overtopped in an extraordinary flood. Those positions are then transferred onto a plan and joined by a hand-drawn line, from which the area of the parcel is measured (by a choice of scaling methods). In other words, the riparian boundary does not have the same standards of accuracy and repeatability that is expected of monumented corners and right-lined dimensioned boundaries. The survey fix is very subjective and may vary significantly from survey to survey, from time to time, and from the varying experiences of fullest flow and flood conditions. However, given that such a boundary is ambulatory (it can move depending on the various tests of accretion and erosion), perhaps concern about spatial and temporal accuracy is unnecessary.

Similarly, because of the uncertainty about riparian rights to rivers (see below for discussion about ownership of rivers), perhaps the spatial definition of a river bank is irrelevant if the river is owned by that adjoining riparian owner, or the practical effect of the river being the river and providing river services (including public navigation) means that the spatial definition of a bank has no practical effect on the existence and use of the river.

The different determinations about the extent of riparian parcels can have significant
impacts on the legal and spatial representation of rivers. Various sections of legislation define rivers for specified purposes. The Resource Management Act 1991 (RMA) states a “river means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse” (RMA 1991, s 2). Then, for the purpose of setting aside an esplanade reserve “a river means a river whose bed has an average width of 3 metres or more where the river flows through or adjoins an allotment” (RMA 1991, s 230). Rivers less than 3m average width do not trigger any reserve or public access provisions.

The RMA further defines a bed: “bed means,—(a) in relation to any river—(i) for the purposes of esplanade reserves, esplanade strips, and subdivision, the space of land which the waters of the river cover at its annual fullest flow without overtopping its banks: (ii) in all other cases, the space of land which the waters of the river cover at its fullest flow without overtopping its banks” (RMA 1991, s 2).

In a very similar way, the Conservation Acts states: “bed means—(a) in relation to any river, the space of land which the waters of the river cover at its fullest flow without overtopping the banks” (Conservation Act 1987, s 2), and, for the purposes of setting aside a marginal strip the river is further defined as “the bed of any river or any stream being a bed that has an average width of 3 metres or more” (Conservation Act 1987, s 24).

In defining a cadastral parcel that has a natural boundary, the water boundary is “a boundary set at the landward margin of: (a) a river bed or a stream bed, (b) a lake bed, or (c) the common marine and coastal area or other tidal area, and includes a natural boundary where this term is used in enactments to refer to a boundary at a water margin” (Rules for Cadastral Survey 2010, rule 2).

**Rivers as property**

A property regime is characterised by “universality, where all resources are privately owned and entitlements are completely specified; exclusivity so that all benefits and costs only accrue to owner; transferability so that all property rights are transferable from one owner to another in a voluntary exchange; and enforceability so that property rights are secure from involuntary seizure or encroachment by others.” The purpose of property is to grant power to those who hold it, to allow the exclusion of others, to commodify a resource, and to provide security of tenure. Normally we do not expect rivers to support these characteristics. Usually river spaces become property only in relation to the surrounding dry land (notwithstanding the recent Treaty settlement which creates a riverbed title owned by itself – Te Awa Tupua Act 2017).

The common law (and often further clarified or re-stated in legislation) has provided a whole set of rules about ownership of rivers: primarily that water cannot be owned. The discussion about ownership therefore remains about the land; specifically the riverbed. The ownership question therefore needs to be reported on, especially in what might be seen as a period of conflict about ownership and allocation of water, public access to water, and a growing recognition that the state of rivers is deteriorating and cooperative efforts are required to restore riparian ecosystems. For example, ownership will eventually affect management responsibilities, or rather, management cannot be autonomous if control and ownership are contested. So who owns riverbeds?
Who owns riverbeds? – No-one, because they are included in the Coastal Marine Area
Rivers which are included in the Coastal Marine Area (the lesser of – 1 kilometre upstream from the mouth of the river; or the point upstream that is calculated by multiplying the width of the river mouth by 5 – RMA 1991, s 2) are part of the common marine and coastal area and are not owned by anyone: “Neither the Crown nor any other person owns, or is capable of owning, the common marine and coastal area…” (Marine and Coastal Areas (Takutai Moana) Act 2011, s 11(2)). This is in recognition of “the protection of public rights of access, navigation, and fishing” (MACAA 2011,s 4). It might be noted here that the public rights of access, navigation and fisheries are not necessarily incompatible with common law (or even statutory) ownership; they are just elements of the bundle of rights that might be or might not be granted.

As might be expected, this definition also causes some uncertainty, particularly because the river mouth is a vague feature not capable of exact measurement. Therefore, the mouth of a river is as declared by the Minister of Conservation or the Environment Court (RMA 1991, s 2).

Who owns riverbeds? – the Crown, because they are tidal
Riverbeds which are upstream of the Coastal Marine Area, and are tidal, are considered to be extensions of the sea – and (by common law) owned by the Crown. However, it is uncertain if this is still the case now that the Crown no longer owns the seabed (MAACA 2011). Also, the tidal test is very uncertain – it is impossible to make a rational determination about the extent of tidality. Tidally affected sea water flows into many rivers. That sea water then holds back the flow of fresh water on a tidally created cycle. The fresh water will then rise and fall in the lower reaches of a river in a tidal pattern. So is tidal defined by the extent of salt water, the composition of the water (the proportion of salt to fresh water), the horizontal direction of flow of the water, or the vertical changes of the water level? There has been no clear legal determination about these questions, but there is clear acknowledgment of the common law tidal test being applicable in New Zealand: “The English law was clear – riverbeds were vested in the Crown to the tidal limit …”

Who owns riverbeds? – the Crown, because they are navigable
The Taupiri Coal Mines case8 in 1900 questioned the ownership of the bed of part of the Waikato river, specifically whether the ad medium filum presumption could be rebutted by the fact of navigation. The court found that when the adjoining parcels were granted, the Crown was at war with Waikato iwi, the river was being used as a military highway, and therefore the Crown would have retained title to the riverbed. This case prompted clarifying legislation in the form of the Coal Mines Amendment Act 1903, which appeared to confirm that rivers which are navigable are considered to be owned by the Crown unless they have been granted otherwise.

The Coal-Mines Amendment Act 1903 states:

s14 (1) Save where the bed of a navigable river is or has been granted by the Crown, the bed of such river shall remain and shall be deemed to have always been vested in the Crown, and, without limiting in any way the rights of the Crown thereto, all minerals, including coal, within such bed shall be the absolute property of the Crown.
(2) For the purpose of this section - “Bed” means the space of land which the waters of the river cover at its fullest flow without overflowing its banks; “Navigable river” means a river continuously or periodically of sufficient width and depth to be susceptible of actual or future beneficial use to the residents, actual or future, on its banks, or to the public for the purpose of navigation by boats, barges, punts, or rafts; but nothing herein shall prejudice or affect the rights of riparian owners in respect of the bed of non-navigable rivers.

Perhaps this should have clarified the question of ownership of riverbeds, but there is a concern that a section in special legislation such as s14, which was made in relation to a specific case may not have general applicability. Furthermore, more recent case law has questioned what is meant by navigability. The Hutt River case interpreted navigation as a purposeful and commercial activity. Although the Taupiri Coal Mines case asserted that the Crown’s rights might take priority and would not be easily overridden, the Hutt River court found that private rights should not be easily overridden; the Act is confiscatory of private rights to riverbeds and therefore Crown assertions of navigability should be treated cautiously.

More recently at the Supreme Court, the Paki v Attorney General case case examined navigability with particular discussion on whether to take a ‘whole of river’ approach or a ‘segmented’ approach, in other words, whether if a river was navigable in part, was it navigable as a whole. The court found in favour of the ‘segmented’ approach so that a river may be a patchwork of public and private portions – that this better reflects parliament’s intention to balance the relevant public and private interests.

Who owns riverbeds? – the adjoining land-owners, because of ad medium filum aquae

The beds of rivers which are neither tidal nor navigable are owned (by the common law) by the adjoining land owners to the centre line of the river - ad medium filum fluvium. When there is a public reserve adjoining a waterway, then that half of the riverbed is owned by the local authority or the Crown. The ad medium filum concept provides for a common law property right rather than a statutory right, so that the ad medium filum boundary is not made explicit on certificates of titles. This means that any determination or assessment of property in the river is for the courts to decide not for the document to make explicit.

It is worthy of note that a dissenting opinion in Paki (at para 130) suggested: “The usque ad medium filum aquae rule was not an obvious candidate for adoption in newly established colonies … In the UK … where public use of rivers and streams was practicable and useful, there were likely to be associated rights established by long usage … The predominantly gentle topography of much of the UK and its very long established network of roads were in marked contrast to the circumstance which obtained in Australasia and North America. It is unsurprising that courts in North American jurisdictions rejected the wholesale application of the rule.” And at para 131 “… the particular circumstances of New Zealand provided a reasonable basis for concluding that it was not applicable in New Zealand, at least in relation to rivers which were significant to Māori.”
**Who owns riverbeds? – adjoining land-owners because the river is not defined**

Many rivers (especially those less than three metres wide) have not been specifically defined so they exist legally only within and as part of the land estate granted as a fee simple title – as private property. Furthermore, in many instances rivers which have changed course (by avulsion) from their originally described cadastral boundaries now exist totally, or in part, within, and therefore incorporated as part of, private land title.

**Who owns rivers? – Māori, because customary title is retained**

When Māori customary land was initially alienated (by direct Crown purchase, by confiscation, or by the operations of the Native Land Court in granting fee simple title in exchange for extinguishing customary title) it was rarely made explicit about whether rivers within or bounding those land parcels were included in the alienation or in the grant. The courts have clearly recognised that customary title can only be extinguished by the free consent of the native people, or by acts of the legislature. Māori customary title may not have been extinguished or alienated to the Crown, so some rivers may remain as Māori customary title, but this would have to be determined by the courts, having regard to the particular circumstances of a claim. Of course customary rights may continue to be asserted and some Treaty claims may allow for these rights to be accepted.

**Who owns rivers? – themselves, because they are their own legal entity**

In the case of the Whanganui River, the Crown has declared (by Te Awa Tupua Act 2017) that the Crown-owned parts of the river are Te Awa Tupua, which has its own legal personality. “Te Awa Tupua is an indivisible and living whole, comprising the Whanganui River from the mountains to the sea, incorporating all its physical and metaphysical elements” (Te Awa Tupua Act 2017, s 12), and “Te Awa Tupua is a legal person and has all the rights, powers, duties, and liabilities of a legal person” (s 14(1)). Furthermore: “the fee simple estate in the Crown-owned parts of the bed of the Whanganui River vests in Te Awa Tupua” (s 41(1)). While this Whanganui settlement is revolutionary, it is also perhaps experimental. There is an expectation that the arrangement will provide greater participation for the iwi in river management and will enable better environmental outcomes for the river. It is not yet clear whether this settlement will be a successful model, but if it proves to be so, then irrespective of Māori claims, the idea that a river can own itself may be extended to other rivers and even their wider catchments.

Elsewhere I have argued that the grant of a fee simple title to a riverbed may provide little benefit to Māori given that all the normal rights of alienation, exclusivity and use that attach to a fee simple title are excluded in this settlement.

**Ambulatory boundaries**

The way riparian boundaries have been established is crucial, because there are complicated legal arrangements in place to determine what happens to that boundary and to the ownership of the bed of the waterway when it moves. The doctrine of accretion and erosion states that when a waterway moves slowly, gradually and imperceptibly then the boundary moves with the water, but when the waterway shifts due to a rapid event like a flood, then the boundary...
stays where it was originally defined, and the boundary is no longer related to the bank.\textsuperscript{21}

If a public riparian reserve is fixed by survey (as is normally the case) and the river moves, then the reserve may be submerged or left isolated from the waterway depending on the direction of movement.\textsuperscript{22} This is obviously unsatisfactory in terms of the purpose of the reserve – to provide access to the water.\textsuperscript{23}

If a public reserve is ambulatory (for example a marginal strip created after 1990 or an esplanade strip) then it remains defined by the river wherever the river happens to be, so the accretion and erosion tests that apply to other riparian parcels do not apply. This is convenient in respect of the public who can be sure that if they are within 20 m of the river bank then they are in a public space, but may be not so convenient for the adjoining land owner who has only peripheral notice (an obscure record on a CFR, rather than a surveyed boundary) about the property in the river and the reserve.

\textbf{Riparian rights}

Many private property titles have their boundaries identified by a natural boundary; a river or lake bank or at the sea coast by MHWM. When this is the case then by the common law, those proprietors own to the centre line of the river. English land law also recognises that any riparian parcel (i.e. a parcel with a natural boundary defined by a river bank, and irrespective of who might own the bed of the waterway) has common law riparian rights.\textsuperscript{24} Riparian rights, in general, include the right to access the waterway, to have reasonable use of the water (usually for domestic rather than commercial purposes) and other resources in the river, to drain water off the upland parcel to the river, to have a similar quality and quantity of water flowing past the property (subject to the same rights of upstream proprietors), and to have an ambulatory boundary. Some of these rights may have been abrogated by legislation (e.g. RMA 1991), and they are not often explicitly stated, but they do have some impact on the rights of adjoining owners to have some management impact on the rivers. Residual public rights to rivers, including the right of casual recreation on and access to the river are largely unaffected by these common law riparian rights.

\textbf{Public access – “Queen’s chain”}

Access to riparian land is problematic; both symbolically and economically it is the most sought-after land, long held by the most wealthy and powerful members of the community. Landowners’ responses to pressure for increased access range from lukewarm to actively hostile, and this is keenly felt by people attempting to negotiate access or mediate in the debate.\textsuperscript{25}

In Aotearoa New Zealand there has been a strong public expectation of public access to waterways. While there has been some effort to provide for a public reserve strip alongside all waterways (established by a cadastral survey showing strips variously as roads, s58 strips (Land Act 1948), marginal reserves, esplanade reserves, or colloquially ‘the Queen’s chain’) such a strip has not always been set aside.

There is a long history of setting aside riparian strips, roads or reserves alongside
waterways: what is colloquially known as the ‘Queen’s Chain’. Changes in practise, legislation and definitions of rivers have left us with a seemingly random patchwork of riparian land set aside for conservation, recreation and access, and some left in private title. Now the Resource Management Act normally requires an esplanade reserve to be set aside upon the subdivision of land (ss229-237) adjoining a river, but only for lots created less than four hectares, and the Conservation Act 1987 requires a marginal reserve to be set aside upon the alienation of Crown land (Part IVA). It is unlikely that current legislation will provide any integrated network or assurance of public rights to river margins. A government proposal in 2005 to provide a blanket provision for a five metre strip for public access to all waterways was vehemently protested by rural New Zealanders and the government backed down. Widespread consultation in the early 2000s by the Walking Access Consultation Panel led to the establishment of the Walking Access Act 2008 and the Walking Access Commission which prioritises efforts to extend public access to waterways. The contest between private property and public rights is alive and well.

The cadastral record
Our property rights system – the cadastral system – has been set up to provide for strong protections of private property rights. The Torrens system (established by the Land Transfer Act 1870 and subsequent replacements – currently 2017) focuses on private property and only in a residual sense does it also record public rights and public property. Māori Land is mostly dealt with by the Māori Land Court and recorded in that Court’s registry, and Crown land is often not recorded in title form at all. Strictly speaking Crown land is the land that has not otherwise been alienated, it is the land left over from private allocations (of course the Crown can also purchase general land). The cadastral system requires that boundaries are well defined and the extent of all parcels is fully surveyed and recorded. Similarly, all those parcels must have a full record of the rights, restrictions and responsibilities assigned and to whom.

So when land is parcelled up and boundaries are defined, the river and lake banks are shown as the boundaries of the statutory title although the common law expects that a land title might extend to the \textit{ad medium filum}. Case law has confirmed that it is inappropriate for New Zealand titles to record such common law rights. The result is that rivers are shown on the spatial plans as the space left over after the private titles are defined by survey. No appellation, no spatial definition, and no record of any rights (private or public) attaching to that waterway is recorded. So in spite of rivers being included in the definition of land, and at least having a common law property regime around them, they are not part of any formal land parcels or property definition.

Our land rights depend on the registration of rights in our cadastre (LINZ) associated with clearly defined parcels (boundaries). There is no clear statutory or documented definition or description of the rights attaching to rivers. And the problem remains that river ownership is uncertain – similarly, management responsibilities are uncertain.
Southern Lowland rivers

The Taieri River

Many southern catchment rivers are now highly modified by flood control works and have engineered banks and controlled courses. The Taieri River through the Taieri Plain is a mere metre or so above mean sea level (MSL) and the plain is subject to regular flooding. There has been a long history of river modification since the early European settlers decided that the wetlands had no value and the plain could be drained for agricultural production. Engineered stop banks control the river path and allow for some overflow of normal banks while also allowing for occupation and use of these riparian meadows. But sea level rise and increased high intensity rain expected with climate change will increase the vulnerability of property throughout the plains. The conflict between tidy rectangular property boundaries and the difficult-to-tame river remains. And the balance between demand for occupation and development of this productive pastoral region and avoiding the regular flood hazard is difficult to negotiate. Perhaps as storm event frequency increases with climate change and 100 year return floods become 10 year or annual return floods, insurance cover will lapse and riparian land will become undevelopable and unmarketable.

Fig 1. Screenshot of Taieri River near Allanton showing stopbanks allowing for some flood protection for the surrounding arable and pastoral land. (GoogleMaps)
Fig 2. Oreti River north of Winton Bridge. The cadastral overlay on an aerial photo. Previous courses of the river are evident in the landforms, only a few of which have been picked up in the cadastral form. The historic legal property boundaries bear little relationship to the current course of the river. (source: LINZ Data Service)
The Oreti River

Sometimes rivers slowly meander, sometimes they slice straight through the landscape. The Oreti River has regularly changed course since early European surveys and occupation through natural accretion and erosion, and also through rapid avulsion. Past surveys have fixed property boundaries, riparian reserves and roads with reference to the adjoining river, but fixed boundaries do not comply with nature’s changes. How is anyone to make sense of the properties that are now encroached upon by the river, how to access the riparian reserves that now have no reference to the river, how to manage a river that cuts into and through private property, and who is responsible for the dry land still defined as river bed? The course of the river is very apparent on the ground. Does it matter whether it got there by slow and gradual accretion or by rapid avulsion? The law thinks it does matter but common sense and pragmatism suggests it does not. We need to make room for rivers.

Matauranga Māori

Māori perceptions of rivers and the nature of customary rights in rivers is a critical concern for resource management decisions. The Waitangi Tribunal30 (and backed up by the courts31 and more recently by specific settlement legislation32) described rivers as a whole and indivisible entity, and yet our legal and property system maintains the fragmentation of rights and allocations described above. Matauranga cannot be exercised when there is no freedom of access and the multiple layers of common law and legislative rights make little sense. A level of responsibility must be provided to iwi to provide for Māori values to be recognised. When iwi have prepared their resource management plans33, a focus on water and catchments emerges as key to restoring ecological integrity. The establishment of artificial, political and legal boundaries around land breaks down the fundamental webs of whakapapa. Ecological management and Matauranga Māori should not be confined by artificial legal boundaries. Property rights put up a barrier to implementation.

Some Treaty settlements appear to provide for some Māori management by setting aside areas of Statutory Acknowledgement and also surveyed land parcels adjoining some rivers for customary camping and resource gathering – nohoanga (Ngāi Tahu Settlement Act 1998) and ukai (Ngati Ruanui Settlement Act 2001). Full advantage of these spaces and instruments remains dependent on how well resourced and politically and environmentally motivated an iwi is.

Integrated management and the RMA 1991

Sustainable management (s 5) in the RMA requires integrated management: the functions of local authorities include the “integrated management of natural and physical resources”, and the purpose of Regional Policy Statements is the “integrated management of natural and physical resources” (ss 30, 31 and 59). It is difficult for regional authorities to manage rivers when there is no right of access, no clear delineation of property rights, and the law prioritises private property over public and environmental interests. “[O]ne of the main shortcomings in freshwater governance in New Zealand is that water and the land over which it runs are insufficiently integrated in environmental policy and resource consent applications”34.
The National Policy Statement for Freshwater 2014 also requires integrated management. Objective C1 states: “To improve integrated management of fresh water and the use and development of land in whole catchments, including the interactions between fresh water, land, associated ecosystems and the coastal environment”.

There is a statutory implication that rivers should be managed for public access, recreation and conservation. There is a policy expectation that river/land relationship and effects are considered, but integrated management is impeded when there is neither a clear expression of property nor general freedom of access. Access is only provided for when it is specifically established in the cadastral record of rights, restrictions and responsibilities as an encumbrance on adjoining land. Furthermore, access may conflict with best practice riparian management and ecological conservation.

What next?
The rigidity of the cadastral record (fixed boundaries) is an impediment to integrated management of rivers. On the one hand, there are continuing calls to strengthen property rights, on the other hand the concept of property in the foreshore and seabed has been removed, and the allocation of property in the Whanganui River and Te Urewera has been radically modified. Perhaps the example of Te Awa Tupua (i.e. rivers are owned by themselves) may provide a new approach. Although this is a settlement of Māori Treaty claims to the river, a similar approach could easily be used for other significant rivers even where there is no Māori claim. The concept of rivers owning themselves at least avoids the concerns of property owners that their property rights to the beds are being confiscated. However, to date the Crown has avoided affecting private property in these arrangements. The Crown has only removed property from the public foreshore and seabed (MAACA 2011) and the publicly owned parts of the Whanganui River.

There is an opportunity for the Crown to acknowledge that rivers have a greater public value, that private ownership of riverbeds (and the seabed) makes little sense, and the removal of private property in riverbeds is not a significant derogation of property. It would seem from anecdotal evidence that New Zealanders expect rivers and the sea to be public or un-owned, but private property owners with economically valuable riparian rights are likely to defend their property vigorously. Property brings an expectation of exclusivity of rights, rather than the responsibilities of a collective commons. The Māori concept of kaitiakitanga which is about responsibility towards Papatūānuku is a world apart from the concept of rights that flow from the western property regime. Property is therefore a barrier to public responsibility for ecological management. The Crown will need to negotiate these conflicting positions carefully. The lesson from the orange ribbon campaign of 2005 is evidence of that.

The philosophy of “making room for rivers” is gaining widespread international support as a way of reducing flood and erosion risks and allowing rivers to exhibit their more natural morphological behaviour. The law could be modified to acknowledge the greater public interest in rivers in a similar way to how the law deals with the greater public interest in roads; the legality of a road survives the inclusion of that space in a private title (Land Transfer Act 1952, s 77). Similarly any river space could be recognised as public even though it may exist within a legal private land title. Furthermore, development, use and occupation of riverside
land should not be protected but should be required to retreat from mobile river courses.

All riparian margins should have a public reserve adjoining the bank of at least 20 m. This will ensure that property claims cannot encroach on the river margins and the margins can be more explicitly used for riparian management. Filtration planting can serve to isolate productive management of private land from ecological management of rivers. And because public access to rivers for fishing and other recreation is a reasonable expectation, and one that exists at least in the mythology of Kiwis, then those reserves should be identified as allowing public access.

Since 1990, when Crown land is alienated it will be subject to the setting aside of a marginal reserve. Such reserve does not need to be surveyed as a separate parcel of land nor spatially indicated on the cadastral record. All that is required is that a notation is recorded on the title recording that it is subject to Part IVA Conservation Act 1987. In this way the reserve is exclusively defined by the course of the river rather than by survey marks or dimensions, and is therefore infinitely mobile and will always serve the reserve purposes (conservation, recreation and access) without derogating from the surrounding private land titles. The Resource Management Act 1991 which requires esplanade reserves to be set aside upon any (with some exceptions) subdivision of riparian land must be fixed by survey, identified on survey plans and title documents and held as separate parcels by local authorities. While this might clarify and protect land title boundaries, it results in spatial anomalies and disconnections when rivers move. From an ecological point of view, the ambulatory boundaries allow for logical riparian spaces, and provide notice to owners that riparian margins are free to move. The situation illustrated in Fig 2 above would not exist and private property will not be a hindrance to river management or public access.

In short, rivers should be seen as public spaces (specifically to allow for integrated management), riparian margins should have public reserves set aside (primarily for conservation, but also when appropriate for public access), and those reserves should be ambulatory (they should move with the natural movement of the river).

It is right that our socially and culturally developed law should generally provide security and stability. It is also to our advantage that our common law system provides flexibility and adaptability. In the case of management of waterways subject to natural laws generally beyond human control we need to be more proactive in ensuring that the law makes room for rivers.
It is also worth noting that the Crown has always held an ownership interest in navigable rivers. Waitangi Tribunal 1999, WAI167 Whanganui River Report, at para 30: “a balance was struck in the legislation between private property and public property which protected both.”


Specifically, reserve provisions often depended on river widths, that width sometimes being 10 feet, 33 feet, 3m, and then determining an average width and the exact top of the bank made for a great deal of uncertainty. See McDonald, P. 2011. Foot-tracks in New Zealand: Origins, Access Issues and Recent Developments. Chapter 22 The Footways Cabinet Paper. The proposal resulted in a passive rural protest of orange ribbons on farm gates that nevertheless forced a government back-down. 30. Waitangi Tribunal, 1992. WAI119 Mohaka River Report. Wellington. at p36. 31. Te Runanga o te Ika Whenua Inc Society v Attorney-General [1994] 2 NZLR 20 at p26. 32. Te Awa Tupua (Whanganui River Claims Settlement) Act 2017 “Te Awa Tupua is an indivisible and living whole, comprising the Whanganui River from the mountains to the sea, incorporating all its physical and metaphysical elements” (s12).


34. Bosselmann, K. & Tava, V. (Eds) 2011. Introduction:
For example in attempts to include the right to property in the Bill of Rights Act, and resistance to imposing a capital gains tax that would perhaps compromise the investment value of land.

Many common law riparian rights have been restricted by legislation but domestic use of, and access to water remain as valuable rights (see RMA ss 13 and 14).

For example the Rhine and the Mississippi catchments, which are both heavily populated and in the past have been controlled with levees, dykes and groynes, are now being re-engineered to provide more natural approach to flood control; freeing up floodplains and restoring wetlands. Columbia Water Center, Columbia University. 2011. ‘Making Room for Rivers: A Different Approach to Flood Control’. http://blogs.ei.columbia.edu/2011/06/07/making-room-for-rivers-a-different-approach-to-flood-control/

Aerial photo Lindis River (Fish and Game New Zealand).