Ownership and Control of Fresh Water in Common Law Cultures

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1. The common law developed its doctrines of water rights by combining ideas drawn from the native feudal law of land possession, easements, trespass and nuisance, together with imported Romanistic servitudes or specific incorporeal rights of grant, allied with more general *res communes* or things held in common by mankind as natural rights. This amalgam of common-law and civilian legal concepts was hardly elegant or stable; but it did provide a serviceable set of solutions for governing the allocation of inland fresh water during the long span of agricultural, industrial, urban and transport development in England from the Conquest down to modern times.

This article sets out the basic doctrines of historical water law in England and also touches on jurisdictions, such as the former colonies of the British empire and the states of America, that borrowed from and adapted English law. An historical and comparative over-view of the common-law cultures of water control can help practitioners appraise their own systems in places where water law is of supreme importance, such as the western parts of the United States. Those seeking deeper knowledge of the relevant doctrines have good monographs to consult in many jurisdictions.[1]

2. Water rights were early described in English legal tradition as a common or public good belonging to all, i.e., outside the patrimony of rights belonging to persons as private property or objects of *dominium*. The most important early contribution was found in Henry de Bracton's massive treatise *On the Laws and Customs of England* (c.1220-25). There the author(s) followed the *Institutes of Justinian* (promulgated as an appendix to the *Digest of Justinian* in 533) to hold that running water was a *res communes*, or common good:

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[1] Joshua Getzler, *A History of Water Rights at Common Law* (Oxford, 2004); David Schorr, *The Colorado Doctrine: Water Rights, Corporations, and Distributive Justice on the American Frontier* (New Haven, 2012); Joseph L. Sax, et al., *Legal Control of Water Resources: Cases and Materials* (4th ed., St Paul MN, 2006; 6th ed., 2018).

> ‘By natural law these are common to all: running water, air, the sea, and the shores of the sea, as though accessories of the sea’.[2]

Moreover, ‘the use of river banks, as of the river itself, is also public by the *ius gentium* [the law of all peoples]’, with Bracton adding that –

> ‘this is to be understood of permanent rivers, for streams that do not flow uninterruptedly may be privately owned. Those things are taken to be public that belong to all people, that is, which are for the use of mankind alone. Those that belong to all living things may sometimes be called common’.[3]

Bracton’s Romanistic ideas were woven into later legal development, appearing prominently in Sir William Blackstone’s *Commentaries on the Laws of England* (1765-69) and in many of the leading 19th century common law cases.[4] But the language of public and communal right lifted from Roman law cannot be taken too literally as an encapsulation of the common law’s solutions to water allocation. “*Res communes*” and “*publici juris*” were largely rhetorical claims designed to show that water rights did not fit neatly into categories of real possessory right or individually defended seisin. By harnessing the prestige of Roman classical law as a medium of expression, the early English treatise writers could skate over the relative under-development of their own working laws. When Bracton goes on to enumerate and describe the many examples of water claims in feudal and common law, little or no use is made of the framing ideas of *res communes* and *publici juris*. The Latin tags almost seems as borrowed conceptual ladders that can readily be kicked down and discarded.

3. More practically the early common law developed or recognized a large set of aquatic “easements”, or advantages touching land in the control of water, for example allowing access to water sources for human or animal consumption, or permitting the conducting and extraction of water from one locale to another, or licencing the expulsion of flood-water and rain to protect land and buildings. Most of these easements were appurtenant to one estate so as to give advantages over another estate, on the model of Roman praedial servitudes that originated in physical ownership of aqueducts or pathways crossing

[2] Henry Bracton, *On the Laws and Customs of England*, f. 7b–8 (S.E. Thorne, ed, Cambridge MA, 1977) ii, 39-40, paraphrasing Justinian, *Institutes*, 2.1.1.; *Digest of Justinian*, D.1.8.2.pr.–1. (Marcianus).
[3] Bracton, above n. 2, f 8, ii, 40 (Ulpian); D.43.8.3.pr.–1. (Scaevola), 4. (Celsus); D.43.12.1.3. (Ulpian). Paul alone treats the river banks as well as the waters as public property: D.41.1.65.1.; 43.12.3.pr.
[4] See Getzler, *A History of Water Rights at Common Law*, above n. 1, 153-192, 268 ff, for detailed exegesis.

another's land. But usufructuary easements *in gross* giving particular persons incorporeal claims over another's land without benefit to adjoining land were also known to English law, though outside the closed list of possible Romanistic rights. Many such easements *in gross* were local specialty rights based on custom, vesting access to natural resources in resident groups, and described variously as "commons" or "profits". Such specialty claims might be specific to a group or locale, and generated by a local feudal or manorial or borough jurisdiction; and though strictly individuated and local, such claims might still be enforced "from without" by the common law, as a dimension of the Crown's power of feudal regulation and enforcement of covenants.[5] The Bractonian jurists ended up pursuing a rather incoherent dual strategy. On the one hand they were quick to adopt the cultured Romanistic language of praedial servitudes, or rights annexed to dominant estates giving positive or negative rights over adjoining servient estates, including watercourses, lakes or reservoirs, and cisterns.[6] On the other hand they recognized the various extant easements *in gross*, commons and profits even though these could not so easily be fitted within the prestigious classical Roman taxonomy. Thus, the Bracton treatise just cites the native writs without exegesis, and without trying to explain how they sat with the praedial and common rights derived from Justinian. Perhaps the judges who wrote the treatise were aware they were offering a work in progress, not a final word.[7]

4. From as early as the 13th century, the natural water incidents belonging to riparian land (i.e., land adjoining a river or lake), and the artificial water servitudes added to dominant estates, were protected by the same set of royal actions, chiefly the various nuisance (*nocumentum*) writs. Such writs could come in different forms sued out in different courts, including real vindicatory actions yielding remedies such as orders requiring physical maintenance of water access or removal of impediments to *quasi*-possession or enjoyment; and trespassory actions affording damages remedies for interferences in water enjoyment. Common-law interventions protecting water rights could be seen not only as the upholding of property rights, but also as an important dimension of regulation of the feudal economy. Courts of local feudal jurisdiction took a strong role in protecting water entitlements and suppressing nuisances, and the common-law actions described by Bracton can be interpreted as Crown afforcement of local claims. Only from the later 14th century, as the convenient trespass damages remedies took over, did the common law come to control most water adjudications with a set of limited and defined general

[5] This law is unpacked in John W. Salmond, 'The History of the Law of Prescription', in J. W. Salmond, *Essays in Jurisprudence and Legal History* (London, 1891) 73-122; further expounded in F. Pollock and F. W. Maitland, *The History of English Law Before the Time of Edward I* 2 vols. (Cambridge, 1895, 2nd ed., 1898, reprinted 1968) ii, 140-143 ff; Getzler, above n. 1, 88-92.
[6] Bracton, above n. 2, iii, 192-193. Bractonian prescription theory and its relation to local custom is analysed in Getzler, above n. 1, 65-97.
[7] Bracton, above n. 2, iii, 199.

claims, so displacing the customary speciality rights which had a very wide local variance. But a localism of water rights persisted right down to modern times, under the surface of the common law's regulation and often interacting with common-law doctrine in the guise of provable or recognized customs.

5. The Crown also had a direct governmental role in regulating access to water resources at a national level, hovering above the private law administered by the judges including feudal or local claims. From early times the Crown made prerogative claims to property or *dominium* in foreshore and seabed, and also prerogative rights to supervize navigable rivers as public highways. The rights over these waters held by the Crown are dedicated to the public, and include rights to navigation, fishing, and *semble*, recreation. Sometimes Romanistic language of public rights, *publici juris*, could be used to describe the Crown's duty to maintain public access. But a more native vocabulary harnessed ideas of the feudal responsibilities of the Crown to wield its prerogative power for the public good. The idea traces back to Magna Carta 1215, which affirmed the duties of the Crown to protect free navigation of rivers, imposing an obligation on both Crown and subjects to remove obstructive fishing weirs:

> 'All fish-weirs shall be removed from the Thames, the Medway, and throughout the whole of England, except on the sea coast.'[8]

Crown executive action to maintain the public trust over inland waters and protect free navigation continued from the 14th to the 16th centuries. For example, in 1535 we find an executive commission led by Thomas Cromwell resolving as follows:

> 'All weirs noisome to the passage of ships or boats to the hurt of passages or ways and causeys [i.e. causeways or damming walls] shall be pulled down and those that be occasion of drowning of any lands or pastures by stopping of waters and also those that are the destruction of the increase of fish, by the discretion of the commissioners, so that if any of the before-mentioned depend or may grow by reason of the same weir then there is no redemption but to pull them down, although the same weirs have stood since 500 years before the Conquest.'[9]

6. In modern times American jurists took the "Magna Carta" feudal model of Crown prerogative rights and powers dedicated to ensuring public access to and protection of environmental resources, and

[8] Magna Carta 1215, cl 33.
[9] *The Lisle Letters* (M St C, Byrne, ed., Chicago, 1981) ii, 628.

relabelled it as a "public trust". This can be seen as a "republicanization" of the prerogative, recasting it as a dimension of state control of public lands and protection of public amenity in the environment. The seedbed was the United States Supreme Court decision in *Martin v Waddell's Lessee* 41 U.S. 367 (1842), holding that the state of New Jersey as local sovereign in succession to the Crown held the seabed and all submerged lands subject to tidal flows on a perpetual public trust for the common good of the public. That doctrine was extended in *Illinois Central Railroad v Illinois* 146 U.S. 387 (1892), where the Supreme Court granted the state of Illinois perpetual control of navigable waters of the Great Lakes, creating a general doctrine of dedication of water bodies and other natural resources to the state as the protector of the community. The public trust model of water regulation became a staple of 20th century American environmental law, propelled by a seminal article written by the water lawyer Professor Joseph Sax in 1970.[10] The public trust doctrine was sometimes adapted from protection of general community use to accord protection to native groups, for example implying priority of water access to the inhabitants of native reservations as necessary implications of treaty rights establishing those reservations, which is further discussed below.

7. Returning to historic English jurisdiction: alongside the prerogative jurisdiction there was also an active jurisdiction sounding in public nuisance allowing private citizens to invoke "relator" actions brought formally by the Attorney-General or other Crown law officers in order to remove obstructions to public rivers, canals, and reservoirs, and also to abate water pollution.[11]

Yet another source of public dedication of water resources concerned Crown corporate ownership. Where the Crown or some public agency authorized by the Crown or by Parliament owned the land within which the freshwater is located, then the water would either vest in the Crown in person as a conventionally seised owner; or it might vest in the Crown as agent or representative of the public, as with land dedicated under a public or charitable trust (a prerogative form of control regulated by the

[10] Joseph L. Sax, 'The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention' (1970) 68 *Michigan Law Review* 471; see further Joseph L. Sax, 'Liberating the Public Trust Doctrine from its Historical Shackles' (1980) 14 *University of California Davis Law Review* 185; Sax, 'The Limits of Private Rights in Public Waters' (1989) 19 *Environmental Law* 473; Sax et al., *Legal Control of Water Resources*, above n. 1; P. Deveney, 'Title, Jus Publicum, and the Public Trust: An Historical Analysis' (1976) 1 *Sea Grant Law Journal* 13; R. Ausness, 'Water Rights, The Public Trust Doctrine, and the Protection of Instream Uses' (1986) 2 *University of Illinois Law Review* 407; Carol M. Rose, 'Joseph Sax and the Idea of the Public Trust' (1998) 25 *Ecology Law Quarterly* 351

[11] See C.T. Flower, ed, *Public Works in Mediaeval Law Vols. 1 and 2* (Selden Society, London, xxxii, 1915, xl, 1923) for detailed exegesis of these actions. The legal theory underpinning the historical nuisance actions is explored in Janet Loengard, 'The Assize of Nuisance: Origins of an Action at Common Law' (1978) 37 *Cambridge Law Journal* 144.

Courts of Chancery and King's Bench). Indeed "public trust" in the English common law tradition is taken as a synonym for a charitable purpose trust.[12]

8. The final general form of public dedication of water resources to note concerns statutory authorization. For example, the Crown or public entities or officials may be vested by legislation with control of civic or military infrastructure, or with lands and waters for public use such as national parks. Such corporate public ownership will be subject to a bespoke legal regime as set out in the authorising statute, and the details or typology of such publicly-regulated water usages would be left for further administrative and judicial interpretation. By the 20th century, direct state control of surface and ground water via legislative schemas came to displace common-law entitlements to water, with public appropriation and trading licenses accompanied by official monitoring, rationing and pricing of water access. Then in the late 20th century with waves of privatization of government functions, the control of water bodies and supply might be vested in private utility companies, guided by regulating authorities of varying competence and independence. But that system of regulated private markets exceeds our story of historical evolution of water doctrine.

We now turn to specific instantiations of legal control of waters:[13]

9. Where there is a navigable tidal river of freshwater, the navigable portion of the tidal inlet and the waters and underlying soil are prima facie subject to the Crown's prerogative claims.

10. The channel of a public navigable river (whether tidal or not) is properly described as a common highway, and by analogy there is a public right of traffic on the river, and both subjects and the Crown can sue to remove impediments to such traffic.

[12] See for example *Henry Goodman and John Blake, the Younger v The Mayor and Free Burgesses of the Borough of Saltash In the County of Cornwall* (1882) 7 App. Cas. 633, 650-651 (HL) per Lord Cairns, concerning a borough corporation's control of an oyster fishery on a seabed below tidal waters, vested prescriptively as a "charitable, that is to say, a public trust or interest" in the corporation.

[13] The voluminous sources upon which the following sections rest are not cited here in detail; see further H.J.W. Coulson and U.A Forbes, *The Law Relating to Waters, Sea, Tidal and Inland* (1st ed, London, 1880; 6th ed, by S.R. Hobday, London, 1952); Getzler, above n. 1.

11. Where there is a non-navigable tidal river of freshwater, the tidal inlet would seem to be disposed of as a normal river with riparian water rights and the soil of the river bed accorded to the private owners of the bank, and is not subject to prerogative or public rights.

12. Rights to use and enjoy the water flow in natural rivers and streams, whether navigable or not, are established on the basis of reasonable usufructuary rights accorded to all in-stream users as an appurtenance to their riparian lands. This was established, after centuries of debate, in the case of *Embrey v Owen* (1851) 6 Exch. 353; 155 E.R. 579 (Ex.). This case synthesized sources from Roman classical law, American case-law and treatise writings, French law before and after codification, and English treatises, notably *Gale on Easements*,[14] which itself drew heavily from Roman and French doctrine.

13. Riparian rights to natural waters are appurtenant to the adjoining land, and are enjoyed as an incident of the possession of that land.

14. There is no possible property right to water in flowing streams or lakes, exigible against third parties, that is severed from the ownership of adjoining land. In the language of the modern (not the medieval) common law, there is no easement of water *in gross*. The elimination of easements *in gross* from the list of possible property rights began with Bracton's use of Roman servitude concepts, and was quickened by legal support for enclosure and standardization of proprietary incidents from the 16th to 18th centuries. The process was perfected by William Blackstone's time (later 18th century), and hardened into dogma in the classical common law of the 19th century. It is not conceptually or historically impossible to conceive of water rights *in gross* not being appurtenant to precisely benefitted land, but to revive such claims is to overturn some lengthy developments in common law thinking.

15. There can, within carefully constrained limits, be contractual assignments of water by sale from a riparian owner to a non-riparian purchaser, provided allocation does not exceed the riparian owner's own reasonable or legally augmented usage rights.

[14] Charles J. Gale, *Treatise on the Law of Easements* (1st ed, with T. D. Whatley, London, 1839).

16. A non-riparian purchaser or assignee of water cannot sue other riparians for interference whether by impeding of flow or pollution; only the riparian assignor has a position to do so. This was established in the important case of *Stockport Waterworks Company v Potter* (1864) 3 H. & C. 300; 159 E.R. 545 (Ex.), though Bramwell B there registered an important dissent arguing that the purchase of a water allocation could piggy back on the existing duty not to corrupt water supply and so expand exigibility of water protections, using in effect an adumbration of the neighbourhood concept. Bramwell's theory did not take hold.

17. Usage or entitlement to in-stream water by any single riparian is unlimited, provided there is no adverse effect on the quality or quantity of water available to adjoining riparian owners, upstream or downstream to any reasonable distance.

18. Where there is competition for water resources between riparians such that usage by one is adverse to others, then usages are capped at the 'reasonable' needs of each riparian parcel of land.

19. Reasonable use is taken to mean usage for consumption, agriculture and manufacturing appropriate for the locale. It can include rights to abstract, to pollute including to heat or cool, and to impede or enlarge the velocity and volume of flow by use of dams and races (important in hydropower contexts).

20. Expanded abstraction or exploitation of water beyond reasonable use can be justified if there is no sizeable impact on water flow and quality to neighbours; or if there has been explicit grant by those neighbours affected; or evidence of an implicit grant by acquiescence; or prescription in favour of the enlarged allocation by longer user as defined by a combination of common law, limitation acts, and prescription acts. The enlargement of natural incidents of water use is conceptualized as the grant of an augmenting servitude to water negotiated with adjacent or affected estate holders.

21. Rights to water collected in bodies such as lakes or reservoirs is accorded wholly to the owner of the underlying subsoil if a sole owner, and divided between adjoining owners according to the reasonable use doctrine that applies to rivers.[15]

[15] The historical principles are exposed in *Borwick Development Solutions Ltd v Clear Water Fisheries Ltd* [2020] EWCA Civ 578.

22. After much debate, it was decided that there was no protected natural enjoyment of water in an artificial watercourse. Rights partaking of the nature of servitudes could be attained by the usual methods of explicit or implied grant or prescription, and also by local custom or specialty, especially common in Cornwall, Devon, The Peaks, and other mining districts; and there could also be protected rights by local and personal legislation pertaining especially to transport and irrigation canals.[16]

23. Natural rights in artificial water courses could exceptionally be recognized where (i) the watercourse channelled a natural source; and (ii) where the harm to the water supply being resisted involved pollution, which was seen as inimical to the land and environment in any case and worthy of repression.

24. The most litigated and controversial point in English water law involved finding the right balance in ascribing "reasonable" uses to riparian owners. Some metric was needed to establish what level of water use each rival owner might enjoy without unbalancing the correlative claims of others. The courts zigzagged between requirement of an ancient established use as foundation of a protected water interest, or a recent appropriative use, an actual present use, or a right in grant from neighbours independent of or merely anticipating use, or a use concomitant with the current tenor of local development. Ultimately the English courts plumbed for the measure of use consistent with the like use of others, in a spirit of give and take. This latter test was encapsulated by a pleasingly elegant maxim derived from the Stoic and naturalist philosophy of the Roman jurist Ulpian: *sic utere tuo ut alienum non laedas* – "so use your own as not to harm that of another". The courts acknowledged that this could prove to be an unstable equilibrium; the whole problem was defining what was a harm, which demanded an answer to the question which interest was being protected. It was not clear if this was a jury question of fact, or a question of law for the judge. Ultimately the maxim served as a guide for the judge to search for the agreements and practices of the parties themselves as self-constituting their interests, a kind of legal detection of an existing social equilibrium. The vacuousness of the test, confusing harm and interest, turned out to be a serviceable method of returning the problem to the parties for self-regulation. There was really no external standard of correct water usage; the judges tried to help the parties recognize and stick to their own local solutions, as umpire recording the score rather than adjudicator setting and applying the rules. In other words, the basic law of water allocation between rival riparians was procedural rather than substantive.

[16] Getzler, above n 1, 232-59.

25. There were also rights to expel water or drain water away, subject to a similar regime of core natural incidents augmented by add-on servitudes in grant, and customs and specialties.

26. As an adjunct to the last category, there was a right not to be flooded, and in the mid-19th century nuisance actions were stretched to yield a right to sue for damage caused by escaping waters where liability was imposed unless the collector of the escaped water could show that the escape was akin to an act of God outside human agency. The "strict liability" for escaping waters, known for its leading case of *Rylands v Fletcher*,[17] was ultimately absorbed back into fault-based negligence, with protections controlled by the standard of care metric.

27. The riparian reasonable use doctrine was affirmed at the highest level of authority, and applied externally to Quebec, by the Privy Council in the 1858 case of *Miner v Gilmour*.[18] There it was stated that there was no real difference between the English common law position, Roman law and old French law as applied in imperial and dominion territories.[19] The same principles were also applied by the House of Lords to Scotland, which had tended to emphasize Romanistic natural rights over customary and specialty rights, but which had basically anticipated the developed English position of correlativity, in a series of cases stretching back to the early 17th century. In the 1877 Scottish appeal of *Orr Ewing v Colquhoun*[20] Lord Blackburn in the House of Lords reviewed the settled Scottish jurisprudence and found that English law had finally come into alignment so that the principles of the two systems were now identical. This was not the only case of Scotland doctrinally colonizing its southern neighbour. The Anglo-Scottish synthesis in *Orr Ewing*, together with the imperial case of *Miner*, was accepted as the definitive restatement of water law from this time onward, and little further creativity was exhibited in the common law. When the Privy Council came to decide Romano-Dutch water law in the Cape Colony in the *Hugo* case of 1885, Lord Blackburn leading the court overturned settled local law, which had tended to a prior appropriation theory allowing capture by the first user, and installed the British orthodoxy in its place.[21] Many years later in post-apartheid South Africa water law was transformed by

[17] *Rylands v Fletcher* (1865–68) 3 H. & C. 774; 159 E.R. 737 (Ex.); L.R. 1 Ex. 265 (Ex. Ch.); L.R. 3 H.L. 330 (H.L.)
[18] (1858) 12 Moore P.C. 131; 14 E.R. 861 (P.C.).
[19] David Schorr, 'Riparian rights in Lower Canada and Canada East: Inter-imperial legal influences' in *Imperial Co-operation and Transfer, 1870-1930: Empires and Encounters* (Roland Cvetkovski & Volker Barth, eds, London, 2015) 107-126.
[20] *Orr Ewing v Colquhoun* (1877) 2 App. Cas. 839 (H.L. (Sc.)).
[21] *Commissioners of French Hoek v Hugo* (1885) 10 A.C. 335 (P.C.).

constitutional interpretation into a human right, imposing a duty on the state to vouchsafe secure water supplies for all citizens.[22] This precedent has found echoes in many other jurisdictions,[23] though courts have had great trouble operationalising a doctrine that converts the tribunal into a budgetary decision-maker.[24]

28. Australian law in the 19th century generally tracked the English common law position. In practice a reciprocal system of water sharing was displaced by a race to capture water scarce resources. Water monopolies emerged in the hinterland as squatters would occupy land containing springs, rivers and ponds (billabongs), often with officialdom playing favourites. Control of the water supply brought control of vast swathes of pastoral and arable land as other selectors could not survive on unwatered land and sold up. The state reacted from the late 19th century statute by controlling or displacing private rights to surface and underground waters; for example, in 1966 all sub-surface waters were vested in the state of New South Wales. In Victoria legislation simply vested all water resources in the state in the Crown. Water users were then issued with non-assignable abstraction licences controlled by administrative law. In the later 20th century assignable water rights were developed for trade in controlled markets in an attempt to deploy market pricing to attain allocative efficiencies. The system was seen to have failed both through poor design and corrupt execution, and extensive water shortages, wasteful farming, and environmental degradation have ensued.

In *ICM Agriculture Pty Ltd v The Commonwealth* [2009] HCA 51; (2009) 240 CLR 140, the High Court of Australia adopted the English tradition of reasonable correlative use as accurately describing riparian water claims, accepted that underground waters worked on a different regime of first capture, and further noted that it was difficult to fit conventional proprietary ideas based on possession to fluid and fugitive water assets. The court further held that the bore and aquifer licences that displaced common-law water entitlements were not themselves objects of property, but were rather administrative controls of land use. The judges in that case gave a valuable review of the common-law doctrine of water ownership, noting its plasticity and instability.

Native title decisions and legislation have increasing impact on water rights in modern Australia. The *Mabo* decision referred to native claims to land based on a provable nexus between people and territory,

[22] *Bill of Rights* (S. Afr.) s. 27.
[23] James R. May and Erin Daly, *Global Environmental Constitutionalism* (Cambridge, 2015); David Schorr, 'Water Rights', in M. Graziadei and L. Smith, eds., *Comparative Property Law: Global Perspectives* (Cheltenham, 2017) 280-289.
[24] See e.g. the split decision of South Africa's Constitutional Court in *Mazibuko v City of Johannesburg* (CCT 39/09) [2009] ZACC 28, 2010 (3) BCLR 239 (CC).

giving rise to a title that Australian law was bound to respect unless expressly extinguished by an exercise of "sovereign power" which seems to encompass both paramount legislation and Crown executive action. A crown grant of freehold or full leasehold would extinguish a native title, as would the Crown purporting to exercise its radical title as sovereign in the manner of an owner. *Mabo* did not refer to waters as an object of native title, but the Native Title Act (Commonwealth, 1993) did include water in the interests that could be recognized, and so brought native water claims within the scheme of the legislation, which set out a scheme for identification and enforcement of native titles and where necessary for their extinguishment and reparation. In the leading case of *Western Australia v Ward* (2002) 213 CLR 1, the High Court explored modes of proof of native customs for enjoyment of land and waters, and examined the question of whether the entry of the common law under Crown sovereignty with public rights of navigation and fishing might partially or fully extinguish native rights in waters as inconsistent, such as inter-tidal fishing rights. It also fell to be decided whether grant of mineral and pastoral eases necessarily cancelled native claims to land and water in the region. The majority decided that both common law general rights and specific grants had partially extinguished native land and water rights in the region. It also confined native claims to resources such as minerals to the kind of uses traditional native peoples would have enjoyed, and held that full commercial exploitation of minerals was not encompassed in a native interest.[25] In *Akiba v Commonwealth* (2013) 250 CLR 209 the High Court followed the approach charted by Finn J in the Federal Court to find that native title to land and water was not to be assimilated to a western model of private patrimonial claim, but were rather group rights based on reciprocity, personal obligation and spiritual nexus to the natural world.[26] It was further decided that an extrinsic legislative curb on commercial fishing did not implicitly extinguish a native title to enjoy the seas of their region, tracking *Yanner v Eaton* (1999) 201 CLR 351 on the interaction and coexistence of general laws and native title. The Australian experience of coordinating general law with native title is tied deeply to the anthropology of Aboriginal Australia on the one hand and the legislative framework of native title recognition and extinguishment on the other, and may not have much bearing on other jurisdictions. But the case-law does suggest that the courts are prone to save native claims as compatible with the presence of western property ideas, precisely because native claims do not track conventional forms of western property and are thus consistent with those forms.[27]

[25] See further Kate Stoeckel, 'Western Australia v Ward & Ors' (2003) 25(2) *Sydney Law Review* 255.
[26] See further Simon Young, 'The Increments of Justice: Exploring the Outer Reach of *Akiba*'s Edge towards Native Title 'Ownership' (2019) 42 *University of New South Wales Law Journal* 825; Lauren Butterly, 'Changing Tack: *Akiba* and the Way Forward for Indigenous Governance of Sea Country' (2013) 17 *Australian Indigenous Law Review* 2.
[27] An approach adumbrated in the seminal decision of Blackburn J in *Milirrpum v Nabalco Pty Ltd* (1971) 17 FLR 141 (Federal Court of Australia – Northern Territory).

29. In Canada the provinces have jurisdiction over land and water resources; but the federal government has prerogative powers over other natural resources including mineral royalties, thus dividing the inheritance of Crown powers. In this complex bifurcation of authority, the law of riparian rights fell into disarray as courts in different regions issued contradictory rulings; this led to a movement towards legislative codifications from the later 19th century, displacing the web of doctrines evoked by the courts. The Western provinces passed statutes modelled on prior Australian state laws, notably Victoria, vesting all water resources, surface and underground, in the state, with allocations to private users proceeding by licence. In 1930, to iron out conflicts between provincial and federal power, an Irrigation Act was passed by the federal government to create a national common water scheme. To avoid constitutional demarcation disputes, most provinces passed the provisions of the 1930 statute into their own laws, and as a result the residual notion of a public right to water channelled through the prerogative has now been transmuted into a legislative state power.[28] The Supreme Court of Canada made clear that water rights in e.g. British Columbia thereby became pure creatures of statute.[29] It would seem that some eastern provinces, notably Ontario, have cleaved to common law riparian concepts outside statutory allocations, based on conventional reasonable correlative use, and deploying the classical English authorities to articulate the doctrine.[30] There has been some recent discussion of how American public trust doctrines can be admitted into the state system of control, and whether trust and fiduciary ideas from private law, or "honour of the Crown" concepts from public law, can be introduced, for example to vouchsafe native or first nation interests in water, and generally to ensure consultation of stakeholders before water allocations are made by public authorities.[31]

In *Newfoundland and Labrador (Attorney General) v. Uashaunnuat (Innu of Uashat and of Mani-Utenam)* 2020 SCC 4, the Supreme Court of Canada decided that a first nation claim to protect its interests in enjoyment of land and water in one province could be litigated in the court system of another province due to the personal nexus of the defendant with the latter jurisdiction. The majority of five justices held that a native title to enjoy territorial rights including use of watercourses and instream fishing was outside the conventional *numerus clausus* of possessory real rights, and were not classifiable as personal rights either, but were to be protected as *sui generis* constitutional rights. The

[28] David R. Percy, 'Responding to Water Scarcity in Western Canada' (2006) 83 *Texas Law Review* 2091; Jamie Benidickson, 'The Evolution of Canadian Water Law and Policy: Securing Safe and Sustainable Abundance' (2017) 13 *McGill International Journal of Sustainable Development Law & Policy* 59

[29] *Vaughan v Eastern Townships Bank*, 1909 CanLII 16 (SCC).

[30] *Markesteyn v Canada*, 2000 CanLII 17160 (FC), [2001] 1 FC 345; *The Upper Ottawa Improvement Co. v Hydro-Electric Power Commission (Ontario)*, 1961 CanLII 7 (SCC), [1961] SCR 486.

[31] Jane Matthews Glenn, 'Crown Ownership of Water *in situ* in Common Law Canada: Public Trusts, Classical Trusts and Fiduciary Duties' (2010) 51 *Les Cahiers de droit* 493.

four dissenting justices argued that native claims including rights to enjoy water resources were better classified as 'innominate real rights of enjoyment, that is, dismemberments of ownership', and hence counted as real rights for private international law even though these were not claims to exclusive possession. On either the majority or minority view, it was clear that native rights to water were cognizable, could attract a special curial protection under the honour of the Crown doctrine, and were sui generis claims that could coexist with conventional grants of land. The Supreme Court has also recently indicated that environmental legislation that interferes with the water usages of native peoples must comply with the requirement of consultation driven by the honour of the Crown.[32]

30. In other parts of the Empire, the British rulers tended to simply nationalize water resources as an override of local laws and customs. In British India, the Northern India Canal and Drainage Act 1873 accorded the Government the 'use and control for public purposes the water of all rivers and streams flowing in natural channels, and of all lakes'. The Madhya Pradesh Irrigation Act, 1931 went beyond regulatory control and transferred all water resources directly into state ownership: 'All rights in the water of any river, natural stream or natural drainage channel, natural lake or other natural collection of water shall vest in the Government' (s. 26). In Palestine under the British Mandate, the intricate Ottoman law of water was displaced in 1940 by an ordinance vesting all surface waters in the High Commissioner 'in trust for the Government of Palestine', and giving the Commissioner powers to 'supervize and control' underground waters.[33] The new Jewish state likewise subjected water to strong national direction under a Water Authority, making water allocations between individuals, industries and communities on highly political grounds. Under the shadow of British and then Israeli water law, local clan regulation of water for irrigation and consumption has continued in Palestinian villages, using a stinting mechanism of common rights restricted to a closed group of approved users. The club principle of water allocation evinced in such village organization has been analysed as a micro-model for cross border international allocation of water resources, as a third way between private and nationalized models of control.[34]

[32] *Mikisew Cree First Nation v Canada (Governor General in Council)*, 2018 SCC 40, [2018] 2 S.C.R. 765, [158]; *Quebec (Attorney General) v Moses*, 2010 SCC 17, [2010] 1 S.C.R. 557.

[33] Palestine (Amendment) Order in Council (1940) Article 16E, discussed in David Schorr, 'Water law in British-ruled Palestine' (2014) 6 *Water History* 247 and David Schorr, 'Horizontal and vertical influences in colonial legal transplantation: Water by-laws in British Palestine' (2021) 61 *American Journal of Legal History* 308.

[34] Eyal Benvenisti, 'Collective Action in the Utilization of Shared Freshwater: The Challenges of International Water Resources Law' (1996) 90 *American Journal of International Law* 384; Eyal Benvenisti, 'The Legal Framework of Joint Management Institutions for Transboundary Water Resources: Ancient Practices Informing Contemporary Regional Cooperation', in *Water and Sustainable Development* (Bristol, 2005) 21.

31. Water law in the Eastern United States was developed both in a series of highly articulate reserved cases[35] and in a sophisticated treatise literature,[36] and established a correlative use metric for in-stream water uses, and a free capture rule for underground and indefinite water users, well before English law stabilized around the same doctrines. In *Tyler v Wilkinson* (1827) Justice Story produced a carefully specified structure of natural rights varied by rights of grant and prescription, and tied to estates so as to restrict assignment, synthesizing the large body of extant English and American authorities into an integrated whole. His judgment was printed *in extenso* in Charles Gale's seminal *Treatise on the Law of Easements*,[37] and also adopted as high authority in English cases.[38] Prof Carol M. Rose in a seminal study of the evolution of 19th century water law[39] has surmised that Story's approach was guided by the need to ensure predictable supplies of hydro power to the mills of New England, and that a similar economic function may have recommended the Story doctrine to English judges guiding disputes between factory owners, farmers, and miners in the industrial regions.

32. Water law in the Western United States took a different course in the later 19th century, adopting the "Colorado" doctrine according water rights to occupants of land who had made the prior appropriation of waters and put them to present use. There was under this doctrine no duty to accord reciprocal rights to adjacent owners; it was a rule of capture on a first come first served basis.[40] The doctrine seemed to fit with the mentality of settlers on the frontier, farmers and prospectors, who believed that enterprise and the bringing of resources into productive use was the root of property, and that a virtual occupation of water should give a protected interest just as occupation of unoccupied land conferred a good title.[41] It has also been surmised that the Colorado doctrine was appropriate to the economy: in the dry west water stocks were low and flows were diverted for consumptive uses (domestic, farming and mining) rather than for industrial flows such as power and production as in the Eastern states. Another hypothesis is that the doctrine appealed to homesteaders seeking independence and self-earned prosperity in an egalitarian frontier society. The rule was also anti-market and anti-monopolistic, as a prior appropriation could not give title to a potential use, nor licence transfer to a

[35] Notably Story J's judgment in *Tyler v Wilkinson* (1827) 4 Mason (U.S.) 397; 24 Fed. Cas. 472 (Case No. 14,312).
[36] Notably J. K. Angell, *A Treatise on the Law of Watercourses* (3rd ed, Boston MA, 1840).
[37] Gale, above n. 14, 130-131.
[38] E.g. *Acton v Blundell* (1843) 12 M. & W. 324; 152 E.R. 1223 (Ex. Ch.).
[39] Carol M. Rose, 'Energy and Efficiency in the Realignment of Common Law Water Rights' (1990) 19 *Journal of Legal Studies* 261, reprinted in C. M. Rose, *Property and Persuasion* (Boulder CO, 1994) 163, discussed in Getzler, above n. 1, 336-342.
[40] Established in *Coffin v. Left Hand Ditch Co.* (1882) 6 Colo 443 (Colorado Supreme Court).
[41] See the definitive study by David Schorr, *The Colorado Doctrine: Water Rights, Corporations, and Distributive Justice on the American Frontier*, above n. 1.

non-appropriating non-landed assignee. It was a usufructuary, use-it-or-lose-it doctrine, and so prevented build ups of water capital and market pricing of water stocks. The Colorado doctrine also built on a heretical stream in English water law, rewarding prior appropriation through protections of tort remedy. This doctrine was evoked by Blackstone in his *Commentaries* and also by a stream of 18th and early 19th century English cases.[42] It may be that the English prior appropriation doctrine was really about fixing the correct level of damage caused by interferences in natural flow, and was not meant to construct an alternative structure of property rights in water; but the American judges promoting the Colorado doctrine self-consciously broke with English and Eastern-U.S. legal traditions and decided on a fresh path.

33. The Western prior appropriation doctrine may have had an egalitarian edge, supporting small-scale farmers and restraining concentrations and commodification of water resources, but it also had the effect of blocking more efficient industrial and urban uses requiring capital intensification and longer term planning. After many decades of doctrinal instability, California moved to a hybrid system with reasonable correlative allocations of both surface and ground water, but with prior appropriation used to delimit the scope of interests. Many Western states therefore displaced the common law pattern with legislative overlays; but state control of water could lead to fresh problems of misallocation to favoured interests. American water law has also been marked by protracted intergovernmental conflict over cross-border water flows, notably in the Colorado river basin that feeds the states of Arizona, California, Nevada, Colorado, Utah, New Mexico, and Wyoming. The Colorado River Compact of 1922 was negotiated between federal and state governments to create a form to negotiate pooled water resources, and this made possible the construction of vast projects for damming and channelling from the late 1920s including the Hoover Dam. The cooperation is unstable, however, and the problem of a rule-bound and accepted system interstate water allocation is not constitutionally solved.

34. The federal government has also historically intervened in state water rights to protect the viability of native reserves. The Supreme Court case of *Winters v United States*, 207 U.S. 564 (1908) held that the federal government had a responsibility as part of its treaty-making with native peoples constituting protected reserves to ensure due availability of water resources so to maintain native agriculture and lifestyles. This translated into a federal power – and duty – to defeat inconsistent state appropriation (including appropriation by private actors) of waters that should be accorded to native peoples for their just and reasonable use on reserved lands. Thus, native water interests, conceived as claims contiguous

[42] Detailed analysis of the rise and fall of the Blackstonian prior appropriation theory in the English courts is laid out in Getzler, above n. 1, 153-232.

to or running with native lands, take priority over state water abstractions. A large body of case law, mainly from Arizona, Nevada, Colorado and Montana, has explored how to measure reasonable water supply for native reserved acreage, and how to balance inter-state rivalries over water distribution as well as federal and native interests. It must be emphasized that here the native claim to water is linked to the Federal treaties vouchsafing reserved lands, as an implicit promise to make the land grants viable. This does not amount to recognition of a collective title or control over territorial freshwater by virtue of native customary law. It is an incident of land control and occupation on the native reserves.

35. We may conclude this survey of common-law water regimes with some of the most interesting and innovative of the once-colonial jurisdictions. The historical New Zealand law of water has been entwined with the evolution of native title and self-rule as a co-jural system of laws alongside sovereign Crown common law and parliamentary legislative authority.[43] The common law of water has now been largely subsumed by statute, as under the Resource Management Act 1991. The legislation provides a complex stinting mechanism between various usages, to be determined after due consultations. The public law regulation of water under this regime was analysed in court proceedings recently in *Aotearoa Water Action Incorporated v Canterbury Regional Council* [2020] NZHC 1625. Much of the attention of the courts is now absorbed by two distinct but linked issues: First Nation water claims in the context of Treaty of Waitangi principles,[44] and a general crisis of water quality for inland waters provoked by over-exploitation of land and water by farmers, miners, and city dwellers (including both Maori and Pakeha actors). The crisis of pollution and competition for supply by various groupings in New Zealand might be seen to be a microcosm for the problems of legally-governed water management the world over.

One innovative approach developed in recent New Zealand law has been to recognize water bodies as legal persons, as in a famous statute of 2017 which granted the Whanguani River capacity and standing to bring claims to court in its own defence via human representatives.[45] This development, constituting rivers as legal persons with a naturalistic interest distinct from those of human users or actors, has

[43] The seminal case of *Tamihana Korokai v Solicitor-General* (1912) 32 NZLR 321 lies at the heart of these issues: see further Mark Hickford, 'John Salmond and Native Title in New Zealand: Developing a Crown Theory on the Treaty of Waitangi, 1910-1920' (2007) 38 *Victoria University of Wellington Law Review* 853.

[44] See e.g. Marlene Thomsen, 'Recent Waitangi Tribunal River Reports and Implications for the ECNZ Split' (2000) 9 *Auckland University Law Review* 208; Waitangi Tribunal, *Stage 1 & 2 Reports on the National Freshwater and Geothermal Resources Claim* (Wai 2358, 2012, 2019); Jacinta Ruru, 'Māori rights in water – the Waitangi Tribunal's interim report' [2012:9] *Maori Law Review*.

[45] Te Awa Tupua (Whanganui River Claims Settlement) Act 2017 s 14(1): 'Te Awa Tupua is a legal person and has all the rights, powers, duties, and liabilities of a legal person.'

excited environmental activists the world over, and has been echoed, *inter alia*, in India[46] and Bangladesh.[47] But the personalization of rivers is hardly a panacea, and with almost all the surface waters of these jurisdictions remain badly compromised by pollution, the flow of litigation through the courts shows no sign of abating.[48] The lesson may be that ultimately the environmental protection of natural water systems from over-extraction and pollution will have to be evolved in the political rather than the legal sphere, though strategic litigation and specific legislative interventions can play a role in driving the political process.

36. The deeper reasons why law constantly fails to solve the problems of water allocation and protection were analysed with great prescience by the American jurist Lon L. Fuller in the mid-20th century. Fuller, who attained fame in the fifties and sixties as a natural law philosopher at Harvard, grew up in water-scarce southern California, dependent on long-distance water carriers and elaborate hydrological infrastructure to maintain itself. Fuller investigated the basic problems of water law in a 1965 article entitled 'Irrigation and Tyranny',[49] where he wrote:

> 'The earliest decisions in England in the field we now call administrative law related to similar questions. . . . We may indeed describe the law relating to the control of waters as the most ancient branch of administrative law. . . . When things go wrong we are more and more inclined to run to the judge. This is . . . an escapist solution. Problems concerned with the sharing of water supplies and the joint utilization of river systems are inherently unsuited to adjudicative solution, involving as they do a complex interplay of diverse interests. Only those who know those interests intimately, who can feel their way toward the best reciprocal adjustment of them, are competent to find a truly satisfactory solution.'

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[46] *Mohd Salim v State of Uttarakhand* (2017) SCC Online UTT 367, para 19 per Sharma and Singh JJ) para 19: 'Accordingly, while exercising the *parens patrie* jurisdiction, the Rivers Ganga and Yamuna, all their tributaries, streams, every natural water flowing with flow continuously or intermittently of these rivers, are declared as juristic/legal persons/living entities having the status of a legal person with all corresponding rights, duties and liabilities of a living person in order to preserve and conserve river Ganga and Yamuna'. The same court extended the doctrine to other water bodies in *Lalit Miglani v State of Uttarakhand* (2017) SCC Online UTT 392. Both rulings were however stayed by the Supreme Court of India within weeks of the original decisions: *State of Uttarakhand v Mohd Salim* (2017) SCC Online SC 903; SLP (Civil) 33968 of 2017.

[47] *Nishat Jute Mills Limited v Human Rights and Peace for Bangladesh* (Appeal 3039), Supreme Court of Bangladesh Appellate Division, 17th February 2020, affirming judgment of the Supreme Court of Bangladesh High Court Division, 31st January 2019.

[48] See e.g. *Smith v Fonterra Co-operative Group Ltd* [2021] NZCA 552; [2022] 2 NZLR 284; *Timaru District Council v Minister of Local Government* [2023] NZHC 244; Shyam Divan and Armin Rosencranz, *Environmental Law and Policy in India* (Oxford, 2022) 228-314.

[49] (1965) 17 *Stanford Law Review* 1021, 1041-1042.

Fuller went on to develop this into a general theory of "polycentric" interest balancing, published in an influential posthumous article in 1978.[50] In a sense, he was drawing out of water law a general insight that rights-talk and competitive bilateral adjudication is a poor method of constructing systemic order, an insight now better understood in an era of environmental and financial interconnectedness and fragility.[51]

37. The leading property and tort scholar Richard Epstein has written extensively on water law; his theorizing is eclectic and does not cleave to the libertarian Chicago school that he is associated with. Epstein thought it plausible for the courts to assume a veiled administrative power over surface waters via the reasonable use doctrine, preserving a guided discretion in the system. He writes:

> 'Flowing water is a valuable resource for which there is no obvious single owner. Assuming, as was the case historically, that the Crown or the state does not own these rights . . . then there must be some natural mode of acquisition that matches claims to water with individual owners'.[52]

Epstein argues that first possession, as applied to the case of wild animals, was an unacceptable regime for instream water as it would divide and destroy the river as a 'going concern' for all participants. Nor are market solutions more promising: *pace* Coase,[53] this is not an area where owners the law can simply define initial entitlements and then encourage dynamic trading to sort out allocations via pricing and arbitrage. Transactions costs and predatory bargaining in an inherently polycentric environment will inevitably lead to hold-outs, squeeze-outs, monopolies, underinvestment, and systemic collapse.[54] The solution, argues Epstein, is to allow water use only to riparians or analogous actors, thus forming a closed common pool, and then allow each riparian a fair and reasonable use only, policed by legal actions driven by a generous rule of standing. Alienation of water rights should be possible only through

[50] Lon L. Fuller, 'The Forms and Limits of Adjudication' (1978) 92 *Harvard Law Review* 353.
[51] See Henry E. Smith, 'Property as Complex Interaction' (2017) 13 *Journal of Institutional Economics* 809; Henry E. Smith, 'Semicommons in Fluid Resources' (2016) 20 *Marquette Intellectual Property Law Review* 195; Henry E. Smith, 'Governing Water: The Semicommons of Fluid Property Rights' (2008) 50 *Arizona Law Review* 445.
[52] Richard A. Epstein, 'On the Optimal Mix of Private and Common Property' (1994) 11 *Social Philosophy and Policy* 17, extracted in R. A. Epstein, ed, *Liberty, Property, and the Law, Vol. III, Private and Common Property* (New York, 2000) 357; and see further Epstein, 'Why Restrain Alienation?' (1985) 85 *Columbia Law Review* 970, 979–82.
[53] Ronald H Coase, *The Firm, The Market, and the Law* (Chicago, 1990).
[54] See further Joseph W. Dellapenna, 'The Importance of Getting Names Right: The Myth of Markets for Water' (2000-2001) 25 *William & Mary Environmental Law and Policy Review* 317.

alienation of riparian land. This was an efficient market for water entitlements, because a person valuing the water rights highly enough would pay for riparian land, and at the same time would be restrained from unstinted consumption by the legal norm that user should be proportionate to land ownership. 'By so providing', argues Epstein, 'the law necessarily made the river into a common pool asset owned by a group of individuals who did not stand in a consensual relationship one to another'. The reasonable use test can then be adjusted to permit a hierarchy of uses, domestic, agricultural, and commercial.

Epstein's theory is a convincing articulation of some of the policy ideas implicit in riparian water law; but it does not explain how the law sets reasonable use levels. This is the bedevilling detail that has prompted so much litigation across the centuries. Epstein asserts blankly that legal rules of thumb are no worse than administrative solutions, which have the disadvantage of being prone to distortion by interest groups. The ultimate solution revealed in the history of water law is for the courts to supervize the bargaining strategies of parties involved in the common pool of water assets, and enforce good faith bargaining and forbearance by all participants in the common pool to help them reach optimal results. The state or the Crown as a dominant player in water markets and asset pools, will have its own water needs and will also wield governmental and constitutive power over the water allocation mechanisms binding others. The challenge of water law is to guide the state to act in good faith, with a careful awareness of the fragility of common pool allocations, ensuring that all parties are heard and all interests properly weighed as the common pool is stinted.[55] Doctrines such as the public trust, the honour of the Crown, and the general tools of administrative law and judicial review of executive action, can assist by adding rigour and clarity in the exercise of governmental power, and so help the parties evolve their own optimal and consensual solutions. There is a rich history of common-law doctrinal experimentation to draw from, as these pages of comparative legal history have shown.

[55] The work of the behavioural economist Elinor Ostrom on common pool regulation is here essential reading: Elinor Ostrom, *Governing the Commons. The Evolution of Institutions for Collective Action* (Cambridge, 1990); Elinor Ostrom, 'Community and the Endogenous Solution of Commons Problems' (1992) 4 *Journal of Theoretical Politics* 343.