

The Continuing Relevance of Common Law Property Rights and Remedies in Addressing Environmental Challenges

David Grinlinton

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Résumé de l'article

De nos jours, la protection de l'environnement et la gestion des ressources naturelles est dominée par des mesures législatives et des procédures administratives. Les régimes d'application de la loi et de pénalités pour les dommages environnementaux et la gestion de ressources naturelles sont hautement réglementées. Néanmoins, les règles et procédures de common law disponibles aux individus et groupes d'intérêt public, ainsi qu'au gouvernement, sont souvent négligées comme mécanismes alternatifs ou supplémentaires pour faire valoir les droits et obligations, guider la mise en oeuvre et l'interprétation de règles environnementales, et suggérer de nouvelles avenues pour répondre aux défis environnementaux.

La common law, particulièrement dans les domaines des obligations extra-contractuelles et du droit des biens, a démontré une adaptabilité remarquable pour répondre à de nouvelles menaces environnementales et innover pour protéger les valeurs environnementales et promouvoir le développement durable et écologique des ressources naturelles. Cet article cherche à réviser la contribution historique et actuelle de la common law, en mettant un accent particulier sur les concepts de droit des biens et des obligations extra-contractuelles reliés à la propriété, ainsi qu'à explorer le potentiel futur de ces mécanismes pour promouvoir la protection de l'environnement et le développement durable. Il se basera sur des arrêts et développements dans plusieurs juridictions de common law similaires, incluant le Canada, le Royaume-Uni, les États-Unis, l'Australie et la Nouvelle-Zélande.

THE CONTINUING RELEVANCE OF COMMON LAW PROPERTY RIGHTS AND REMEDIES IN ADDRESSING ENVIRONMENTAL CHALLENGES

*David Grinlinton**

Environmental protection and natural resources management is today dominated by legislative measures and administrative procedures. Enforcement and penalty regimes for environmental damage and the management of natural resources are all highly regulated. Nevertheless, there remains the oft-neglected realm of common law rules and procedures available to individuals and public interest groups, and indeed government, as alternate or supplementary mechanisms to enforce rights and obligations, to guide the implementation and interpretation of environmental regulation, and to provide new avenues for addressing environmental challenges.

The common law, particularly in the areas of tort and property, has demonstrated remarkable adaptability in addressing novel environmental threats and in innovating to protect environmental values and incentivize ecologically-sustainable development of natural resources. This article is intended to provide a review of the historical and current contribution of the common law, focusing particularly on property law concepts and property-related torts, and to explore the future potential of those mechanisms in contributing to environmental protection and environmentally-sustainable development. The article draws on cases and developments in a number of similar common law jurisdictions, including Canada, the United Kingdom, the United States, Australia, and New Zealand.

De nos jours, la protection de l'environnement et la gestion des ressources naturelles est dominée par des mesures législatives et des procédures administratives. Les régimes d'application de la loi et de pénalités pour les dommages environnementaux et la gestion de ressources naturelles sont hautement réglementées. Néanmoins, les règles et procédures de common law disponibles aux individus et groupes d'intérêt public, ainsi qu'au gouvernement, sont souvent négligées comme mécanismes alternatifs ou supplémentaires pour faire valoir les droits et obligations, guider la mise en œuvre et l'interprétation de règles environnementales, et suggérer de nouvelles avenues pour répondre aux défis environnementaux.

La common law, particulièrement dans les domaines des obligations extra-contractuelles et du droit des biens, a démontré une adaptabilité remarquable pour répondre à de nouvelles menaces environnementales et innover pour protéger les valeurs environnementales et promouvoir le développement durable et écologique des ressources naturelles. Cet article cherche à réviser la contribution historique et actuelle de la common law, en mettant un accent particulier sur les concepts de droit des biens et des obligations extra-contractuelles liés à la propriété, ainsi qu'à explorer le potentiel futur de ces mécanismes pour promouvoir la protection de l'environnement et le développement durable. Il se basera sur des arrêts et développements dans plusieurs juridictions de common law similaires, incluant le Canada, le Royaume-Uni, les États-Unis, l'Australie et la Nouvelle-Zélande.

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Introduction	635
I. Speed Bumps and Roadblocks in Utilizing the Common Law to Address Environmental Challenges	637
<i>A. Interests and Interest Groups</i>	637
<i>B. Rights, Obligations, and Justiciability</i>	640
<i>C. The Issue of Pre-emption and Displacement</i>	642
<i>D. Standing, Costs, and Other Barriers</i>	648
<i>E. Class Actions</i>	651
II. The Interrelationship of Property, Contract, and Tort in Addressing Environmental Challenges	653
<i>A. Property Rights and Contract</i>	653
<i>B. The Supportive Role of the Law of Torts</i>	654
1. Trespass to Land	654
2. Nuisance	656
3. Negligence Causing Property Damage	658
4. Strict Liability: <i>Rylands v. Fletcher</i>	659
5. The Doctrine of Waste	660
III. The Current Utility and Future Potential of Property Law in Addressing Environmental Challenges	660
<i>A. The Nature of Property in Land and Natural Resources</i>	662
<i>B. The Usefulness of Traditional Property Rights in Environmental Governance</i>	664
<i>C. Legislative and Administrative Measures Affecting Property Rights</i>	666
<i>D. Recent Innovations in Utilizing Property Rights to Address Environmental Challenges</i>	668
1. Conservation Covenants and Easements	668
2. Sustainable Fisheries Management: Quota Management Schemes	669
3. Promoting Renewable Energy: Feed-in Tariffs	671
4. Tradeable Property Rights in Carbon Emissions: Emission Trading Units	672
5. Protecting Indigenous Resource Uses	674
<i>E. The Public Trust Doctrine and the Protection of Public Property</i>	675
IV. The Argument for an Inherent Duty to Exercise Property Rights in an Ecologically-Sustainable Manner	680
Conclusion	684

Introduction

We must rely upon [the common law] to fill the gaps in legislation, to develop the principles introduced by legislation, and to interpret them.¹

The time should be long past when statute law and common law were seen as occupying different planes. Decision makers, including planning authorities and the Court on judicial review, must consider what construction of the legislation and what development of the common law will avoid anomaly and provide a sensible result.²

Environmental protection and the management of natural resources is today dominated by regulation and administrative procedures. In most jurisdictions, legislation covers enforcement and penalty regimes for environmental damage (including marine and atmospheric pollution, and the allocation of rights in land and water) and the management of natural resources (including minerals, fisheries, and forestry).

Neo-liberal economic policies have encouraged increased private access to, or control of, state-owned natural resources, either by direct allocation or through “public-private” partnerships. Mining and energy development, water allocation, the provision of infrastructure services, and other industrial development are examples of the growing dominance of the private sector in such activities. The rights and obligations of those agencies and corporations, particularly with respect to resource use and the management of environmental externalities, are often closely defined in environmental planning and natural resource regulation, and sometimes override common law rights and obligations. The agencies charged with regulating matters such as the depletion rates of resources and conditions for access and protection of the environment often struggle to deliver due to a lack of financial, legal, or technical resources, conflicting economic priorities, inefficiencies, or a combination of these issues. Nevertheless, a strong body of underlying common law rules and procedures remains relevant to environmental protection, resource use, and the control of administrative action. These rules and principles are sometimes expressly preserved by the regulatory regime,³ and at other times are overridden or partially displaced by it.

¹ Roscoe Pound, *The Spirit of the Common Law* (Boston: Beacon Press, 1963) at 174.

² *Ports of Auckland Ltd v Auckland City Council* (1998), [1999] 1 NZLR 601 at 609, [1998] NZRMA 481 (HC), Baragwanath J [*Ports of Auckland*].

³ See, for instance, the following savings provisions in the United States: 33 USC § 1365(e) (2000) [*Clean Water Act*]; *Clean Air Act*, 42 USC § 7604(e) (2000); *Comprehensive Environmental Response, Compensation, and Liability Act*, 42 USC ch 103 §

Where not expressly excluded or implicitly overridden by legislation, common law rules and principles—particularly in the areas of property law and property-related torts—remain available to individuals or interest groups, and indeed government, as alternate or supplementary mechanisms to enforce rights and obligations.⁴ Such principles can guide the implementation and interpretation of regulation, fill gaps in regulatory regimes, and provide alternative avenues and new innovations to protect environmental values and incentivize sustainable development of natural resources.

This article has two main themes. First, it argues that property law concepts and property-related torts have great potential for addressing environmental challenges. Areas of application include protecting private and public land from ecological degradation, encouraging more sustainable use of natural resources on and under land, and addressing climate-change matters. Second, the article makes the case that property ownership rights are dynamic under the common law and may be reconceptualized to incorporate an inherent obligation to use land and natural resources in an ecologically-sustainable way for the benefit of present and future generations.

In Part I, the article will review interests, rights and obligations relevant to environmental and natural resource issues, and the challenges of expressing them through the mechanisms of the common law. In Part II, the interrelationship of property law, contract law, and the law of torts will be briefly analyzed. This discussion will survey property-related torts that support and assist in the enforcement of property rights. Part III will discuss the current utility and future potential of existing property law concepts for protecting environmental values and applying sustainability principles to natural-resource development. Finally, Part IV will make the case for an inherent duty arising as an incident of ownership to use private land and natural resources in an ecologically-sustainable way for the benefit of present and future generations. The article will draw on cases and developments in a number of similar common law jurisdictions, including Canada, the United Kingdom, the United States, Australia, and New Zealand.

9652(d) (Supp 1980) [CERCLA]. In Canada, see e.g. *Environmental Protection Act*, RSO 1990, c E-19, s 190.1(10); *Alberta Land Stewardship Act*, SA 2009, c A-26.8, ss 1(1), 2(3); *Conservation Land Act*, RSO 1990, c C-28, s 3(9). In New Zealand, see *Resource Management Act 1991* (NZ), 1991/69, s 23(1) [*Resource Management Act*].

⁴ See e.g. *British Columbia v Canadian Forest Products Ltd*, 2004 SCC 38 at paras 65, 81, [2004] 2 SCR 74 [*Canadian Forest Products*]. See also John Swaigen, Alberta Koehl & Charles Hatt, “Private Prosecutions Revisited: The Continuing Importance of Private Prosecutions in Protecting the Environment” (2013) 26:1 J Envtl L & Prac 31.

I. Speed Bumps and Roadblocks in Utilizing the Common Law to Address Environmental Challenges

There are many obstacles to utilizing the common law to protect private property and public lands against environmental damage and the unsustainable exploitation of resources. David Boyd has summarized these barriers as including “a historical bias toward private rather than public interests, the absence of constitutional environmental rights, a lack of access to the courts, the high costs of litigation, judicial deference to government decision makers, and low penalties for environmental offences.”⁵ To engage common law remedies, there must be legally-recognized interests that have been, or will be, affected by the actions of others (Part I-A), and these issues must be justiciable in a court of law (Part I-B). As Douglas Fisher notes, “[F]or there to be a remedy to protect a right, three requirements must always be satisfied: there must be a justiciable issue; there must be a person with the capacity to seek a remedy; and there must be a court with the jurisdiction to provide a remedy.”⁶ A further issue that must be addressed is the question of pre-emption or displacement; that is, whether statutory provisions have implicitly or explicitly supplanted recourse to the common law in any particular case (Part I-C). Once a common law right or duty is established, and has not been displaced or pre-empted by legislation, then the enforcement of such rights and duties raises practical questions of standing to sue, evidence, and financial barriers that may limit access to the legal process (Part I-D). Class actions provide an effective mechanism to ameliorate costs barriers provided that certification and other procedural hurdles can be cleared (Part I-E).

A. *Interests and Interest Groups*

Environmental conflict reflects the interests, motivations, and capacities of individuals and interest groups asserting rights or enforcing others' obligations. Individual and public interests generally reflect “the institutional concerns of the segments of society,”⁷ and each segment has its own set of values and ideological orientations. Individuals and groups within those segments may organize to promote common interests and become

⁵ David R Boyd, *Unnatural Law: Rethinking Canadian Environmental Law and Policy* (Vancouver: UBC Press, 2003) at 267.

⁶ DE Fisher, *Australian Environmental Law: Norms, Principles and Rules*, 2nd ed (Pyrmont: LawBook, 2010) at 521.

⁷ Richard Quinney, *The Social Reality of Crime* (Boston: Little & Brown, 1970) at 38.

interest groups. Public policy is often “the result of the success gained by these groups.”⁸

More powerful interest groups often have increased control over the direction of public policy, and therefore dominant segments of society often have a disproportionate influence on government regulation. In the context of environmental damage and natural resource depletion, as Earl Finbar Murphy notes, this dynamic has resulted in “the profits of exploitation accru[ing] to those most assertive of demand, while the resource held in common title is steadily reduced in its stock or in its renewability by these demands.”⁹ In recent years, “counter-exploitative” and “pro-environmental” interests have become more vocal, and have had a greater influence on government policy and regulation in relation to environmental and natural resource management.¹⁰

Social utilitarianism suggests that legal rules and institutions are primarily devoted to achieving the common interests of society, even at the expense of individual interests.¹¹ This democratic ideal should then be reflected in government activity and legislation. It is not, however, quite that simple. There are fundamental individual rights that are regarded in many societies as inalienable, even if their protection results in arguably less efficiency in the governmental process and the rule of law. Doctrines such as *habeas corpus*, the requirement of proof beyond reasonable doubt of both *actus reus* and *mens rea* for criminal liability, the privilege against self-incrimination, freedom of speech, and protection of minorities against discrimination reflect these rights. Constitutional rights or conventions generally protect such individual interests, and their collective recognition and protection has historically been regarded as a fundamental element of democratic societies based on capitalism.¹²

⁸ *Ibid* at 39.

⁹ Earl Finbar Murphy, *Nature, Bureaucracy and the Rules of Property: Regulating the Renewing Environment* (Amsterdam: North-Holland, 1977) at 177.

¹⁰ See Walter A Rosenbaum, *Environmental Politics and Policy*, 10th ed (London: Sage, 2017) at 9–25 (for a discussion of the influence of public interest groups on environmental law and policy in the United States).

¹¹ See Rudolf von Ihering, *Law as a Means to an End*, translated by Isaac Husik (New York: Macmillan, 1921) at 220–21.

¹² For an account of social contract theory, see Patrick Riley, “Social Contract and Its Critics” in Mark Goldie & Robert Wokler, eds, *The Cambridge History of Eighteenth-Century Political Thought* (Cambridge: Cambridge University Press, 2006) 347. Examples of constitutional protection for individual rights include the guarantees of life, liberty, and property in the *Magna Carta 1215* (which became binding law in *Magna Carta, 1297* (UK) 25 Edw I, c 9), the United States Constitution (see US Const amend V, XIV), and the Basic Law of the Federal Republic of Germany (see *Grundgesetz für die Bundesrepublik Deutschland*, BGBl s 1, 23 May 1949, arts 1–2, 14–15).

Narrower individual interests are often seen as prevailing over the common interests of society, although what those common interests will often be contested.¹³ Public choice theory,¹⁴ although far from a unified doctrine,¹⁵ can make some contribution in explaining the collective action dynamic whereby small well-organized groups with a specific agenda, a strong community of interest, and media support can exert a disproportionately high influence on policy. Interest groups may represent individual, community, corporate, or public concerns, or a combination of the above.¹⁶ Such groups may exert powerful political influence through lobbying or partisan political support, or both, gained through strategic campaign donations. Analyzing early environmental litigation in the United States, Lettie Wenner identified three types of interest groups:

business litigants, whose primary motivation is profit; government agencies, who act from a desire to maintain their political leaders in power and therefore need to appeal to public opinion or their perception of it; and environmental interest groups, who define their role as defending interests unrepresented by either the politically or economically powerful.¹⁷

While there is some truth in this assessment, such stereotypes are not always borne out in reality. For example, some business interest groups may pursue political objectives, and even environmental agendas that appear to be counterintuitive to their economic and corporate interests.¹⁸

¹³ With resource developments, private property interests often prevail over more generalized and diffuse public interests such as environmental protection and conservation, arguably due to their superior financial, legal, and technical resources, and avenues of access to government agencies and policy-makers.

¹⁴ The *locus classicus* of public choice theory is James M Buchanan & Gordon Tullock, *The Calculus of Consent: Logical Foundations of Constitutional Democracy* (Ann Arbor: University of Michigan Press, 1962). For an excellent analysis of public choice theory when applied in the environmental context, see Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (New York: Cambridge University Press, 1990).

¹⁵ See Donald P Green and Ian Shapiro, *Pathologies of Rational Choice Theory: A Critique of Applications in Political Science* (New Haven: Yale University Press, 1994) at 13–19.

¹⁶ See Roscoe Pound, “A Survey of Social Interests” (1943) 57:1 Harv L Rev 1 at 1–2.

¹⁷ Lettie M Wenner, *The Environmental Decade in Court* (Bloomington: Indiana University Press, 1982) at 39.

¹⁸ Sometimes they may be motivated by truly philanthropic or social responsibility considerations; sometimes it may be to prevent competition by a rival, or they may be driven by other pragmatic business considerations.

Some environmental interest groups may also have conflicting interests with other groups, as in the case of wind energy development.¹⁹

Individuals and interest groups may or may not be financially well-resourced, with access to professional legal and technical advice. Provided those hurdles can be cleared, ultimately, the success or failure of environmental litigation will depend upon the availability of legally-recognized rights and obligations, the justiciability of the arguments brought to bear, the extent to which relevant common law rights of action have been pre-empted or displaced by legislation, and practical matters such as *locus standi* and meeting evidential burdens.

B. Rights, Obligations, and Justiciability

Private common law is largely concerned with the enforcement of personal or property rights, or the obligations of others, through the courts. It is therefore useful to consider what is meant by *rights*, *duties*, and *justiciability* in the context of environmental litigation.

Life, liberty, and private property have long been recognized as the fundamental rights of individuals under the common law.²⁰ Personal security is protected by actions such as trespass to the person, false imprisonment, negligence, and defamation.²¹ The first of these remedies has particular relevance to environmental law; for example, where toxic chemicals or other substances cause personal injury. Personal liberty is protected in constitutional provisions or core legislative measures in most jurisdictions.²² While less directly relevant to environmental law, many freedoms and liberties are contingent upon the protection of personal security and private property. The latter has remained a cornerstone of the common law, as reflected in extensive principles and regulatory provisions that recognize and protect such rights. Nevertheless, property rights are not absolute and are constrained by others' individual rights, includ-

¹⁹ Some environmental interest groups support such developments as a mechanism for addressing climate change and GHG emissions, while other groups oppose them on the grounds of interference with visual amenity and iconic natural landscapes.

²⁰ See Sir William Blackstone, *Commentaries on the Laws of England*, 18th ed (London: S Sweet, R Pheney, A Maxwell, Stevens & Sons, 1829) vol 1 at 129 (identifying “the right of personal security, the right of personal liberty, and the right of private property” as the fundamental rights of persons in society at 128).

²¹ These remedies are discussed briefly in Part II-B, below.

²² See e.g. US Const, amend V, XIV; *Australia v Tasmania*, [1983] HCA 21, 158 CLR 1 at 289–91 (commenting on the acquisition of property on “just terms”); *Canadian Charter of Rights and Freedoms*, s 7, Part I of the *Constitution Act, 1982*, being Schedule B to the *Canada Act 1982* (UK), 1982, c 11; *New Zealand Bill of Rights Act 1990* (NZ), 1990/109, s 22.

ing the right to bodily integrity and the protection of one's own property: an otherwise lawful act may become unlawful if it threatens the health or safety of individuals or the public at large (e.g., toxic torts), or where it may damage property (e.g., private nuisance).²³ The rights and obligations tied to life, liberty, and property—and particularly those pertaining to personal security and protection of property interests—have endured to the present and are manifested in both the common law and in legislation.

To be amenable to determination in a court, rights and obligations must also be justiciable, in the sense of being actionable, capable of being litigated, and enforceable.²⁴ The comments of the United States Supreme Court in *Flast v. Cohen* are apposite:

Justiciability is itself a concept of uncertain meaning and scope. ... [N]o justiciable controversy is presented when the parties seek adjudication of only a political question, when the parties are asking for an advisory opinion, when the question sought to be adjudicated has been mooted by subsequent developments, and when there is no standing to maintain the action. Yet it remains true that “[j]usticiability is ... not a legal concept with a fixed content or susceptible of scientific verification. Its utilization is the resultant of many subtle pressures.”²⁵

There are two main dimensions to justiciability in the context of environmental litigation. The first is whether there exists a *legally enforceable* right, duty, or obligation (as opposed to a purely moral or ideological concern). Complications can arise where a court or tribunal has to deal with mixed issues of law and fact, as such distinctions are not always clear-cut.²⁶ A merit-based determination may not be justiciable beyond the initial hearing body or specialist appellate tribunal, unless a procedural error or other matter amenable to administrative or judicial review is argued.²⁷

²³ See e.g. *St Helen's Smelting Co v Tipping*, where Lord Westbury discusses nuisance caused by an industrial development and the different test for liability that may apply to personal discomfort to individuals, as against damage to property value ([1865] UKHL J81, (1865) 11 HL Cas 642 at 650–51, 11 ER 1483). Lord Westbury's analysis was referred to with approval by Lord Hoffman in *Hunter v Canary Wharf Ltd*, [1997] UKHL 14, [1997] AC 655 at 705, [1997] 2 WLR 684 [*Hunter*].

²⁴ See Fisher, *supra* note 6 at 521; William C Burton, *Burton's Legal Thesaurus*, 5th ed (New York: McGraw-Hill Education, 2013), *sub verbo* “justiciable”.

²⁵ *Flast v Cohen*, 392 US 83 at 95, 88 S Ct 1942 (1986) [*Flast*] citing *Poe v Ullman*, 367 US 497 at 508, 81 S Ct 1752 (1961) [references omitted].

²⁶ See discussion of merits appeals in Gerry Bates, *Environmental Law in Australia*, 9th ed (Chatswood, NSW: LexisNexis Butterworths, 2016) at 20.1–20.12.

²⁷ See e.g. *Resource Management Act*, *supra* note 3, ss 295, 299 (Environment Court decisions final on merits issues, but may be appealed to the High Court on points of law).

A second aspect of justiciability concerns the appropriateness of dealing with questions of public policy in a court of law.²⁸ Modern environmental legislation often contains statutory declarations of objectives or purposes that are required to be observed or applied by those administering or performing functions under such legislation.²⁹ These objectives and purposes may relate to the intent of the statutes themselves, to the duties and powers of statutory bodies set up or filling a statutory role under such legislation, or to the exercise of powers or performance of duties by government agencies or ministers. While such measures are part of the law, as they are included in the statutes, courts are uncomfortable being involved in broader public policy issues.³⁰

In environmental and natural resource cases where the exercise of powers, functions, and discretion is challenged through judicial review, issues of merit are often inextricably intertwined with procedural or other substantive rights, including fairness and natural justice.³¹

C. The Issue of Pre-emption and Displacement

A matter related to justiciability is the question of whether common law causes of action and remedies have been supplanted by statutory measures and administrative procedures. Even where there is a saving provision in a statutory measure, a court may find that a common law cause of action or remedy is no longer available due to overriding public policy reasons.

In the United States, there has been significant judicial consideration of this question, particularly in respect of the complex judicial matrix between the federal and state jurisdictions.³² Many of the main federal environmental statutes have express savings provisions that appear to pre-

²⁸ See *Flast*, *supra* note 25 at 97–101 (on the question of separation of powers in the context of justiciability). See also Rt Hon Sir Ivor Richardson, “The Harkness Henry Lecture: Public Interest Litigation” (1995) 3 *Waikato L Rev* 1 at 4–5.

²⁹ See e.g. *Federal Sustainable Development Act*, SC 2008, c 33, ss 5, 9, 11 (sustainability duty on government ministers); *Environmental Bill of Rights, 1993*, SO 1993, c 28, ss 2, 7; *Crown Forest Sustainability Act*, SO 1994, c 25, ss 1–2; *Environment Protection and Biodiversity Conservation Act 1999* (Cth), s 3; *Sustainable Planning Act 2009* (Qd), s 3; *Resource Management Act*, *supra* note 3, s 5(1).

³⁰ See e.g. *Wellington City Council v Woolworths New Zealand Ltd (No 2)*, [1996] 2 NZLR 537 at 552, [1996] NZAR 348 (CA); *Progressive Enterprises Ltd v North Shore City Council*, [2006] NZRMA 72 at paras 63–73 (HC), 11 ELRNZ 421.

³¹ See *Discount Brands Ltd v Westfield (New Zealand) Ltd*, [2005] NZSC 17 at para 54, [2005] 2 NZLR 597.

³² For an excellent analysis of this subject, see Alexandra B Klass, “Common Law and Federalism in the Age of the Regulatory State” (2007) 92:2 *Iowa L Rev* 545 at 557–79.

serve common law actions.³³ Nonetheless, plaintiffs seeking relief through the federal common law of nuisance have had little success, although courts have preserved actions based on state common law.

*Milwaukee v. Illinois*³⁴ (*Milwaukee*) was a federal nuisance claim by the state of Illinois against several Wisconsin cities and sewage commissions for pollution of Lake Michigan. The United States Supreme Court held that such causes of action were generally displaced by the federal legislative regime under the *Clean Water Act*.³⁵ The Court also held, however, that federal regulation did not necessarily pre-empt state common law unless this was clearly intended by Congress.³⁶ A number of cases since *Milwaukee* have confirmed that federal environmental legislation does not necessarily prevent state common law nuisance claims with respect to water pollution. In *International Paper Co. v. Ouellette*³⁷, landowners in Vermont sued International Paper Co. for pollution to Lake Champlain from the company's pulp and paper mill situated in New York. The Supreme Court held that, while the plaintiffs could not sue under Vermont common law, they could bring the action under the law of New York.³⁸

Milwaukee was applied to atmospheric pollution in *American Electric Power Co., Inc. v. Connecticut*³⁹ (*American Electric Power*). In that case, several states and the City of New York sued a number of electric power companies for atmospheric pollution caused by the use of fossil fuels. The plaintiffs claimed that the emissions violated both the federal common law of interstate nuisance and state nuisance law. The Supreme Court

³³ See *supra*, note 3 for examples.

³⁴ 451 US 304, 101 S Ct 1784 (1981) [*Milwaukee* cited to US].

³⁵ *Supra* note 3. See *Milwaukee*, *supra* note 34 at 317–18.

³⁶ See *ibid* at 316–17.

³⁷ 479 US 481, 107 S Ct 805 (1987) [cited to US].

³⁸ See *ibid* at 497–500. See also *Akzo Coatings of America, Inc v American Renovating*, 842 F Supp 267 at 273, 1993 US Lexis 18871 (ED Mich 1993) (*CERCLA* does not prevent state nuisance action associated with hazardous-substance contamination); *Bradley v American Smelting and Refining Co*, 709 P (2d) 782 at 792–93, 104 Wash (2d) 677 (Sup Ct 1985) (state air emissions statute does not pre-empt common law action in nuisance); *Terra-Products, Inc v Kraft General Foods, Inc*, 653 NE (2d) 89 at 94, 1995 Ind App Lexis 715 (1995) (diminution of property value damages available under state tort law as a result of the saving clause in *CERCLA*); *Washington Suburban Sanitary Commission v CAE-Link Corporation*, 622 A (2d) 745 at 756–57, 330 Md 115 (App Ct 1993) (stating that the common law nuisance claim for odor emanating from a sewage plant was not pre-empted by the federal *Clean Water Act*). But see *North Carolina v Tennessee Valley Authority*, 615 F (3d) 291 at 304, 311, 2010 US App Lexis 15286 (4th Cir 2010) (state common law nuisance claims displaced by federal *Clean Air Act*).

³⁹ 564 US 410, 131 S Ct 2527 (2011) [*American Electric Power* cited to US].

held that the regulatory regime established by the *Clean Air Act*⁴⁰ and the power of the Environmental Protection Agency to regulate greenhouse gas emissions spoke directly to the issue of emissions from power plants, and thus displaced the federal common law of nuisance.⁴¹ The Court left the matter of liability under state nuisance law open for further consideration on demand.⁴² A year later, in *Native Village of Kivalina v. Exxonmobil Corp*, the United States Court of Appeals for the Ninth Circuit applied *American Electric Power* to deny a common law damages claim for atmospheric emissions on the basis that the federal *Clean Air Act* covered the field.⁴³ This case appears to have expanded the displacement doctrine to cover financial remedies as well as injunctive relief.⁴⁴

Common law avenues of redress have also been disallowed where such actions would impede or undermine broader political responsibilities that are properly the province of government and reflected in legislative measures. *In re Deepwater Horizon*⁴⁵ concerned actions by the State of Louisiana, local authorities, and other plaintiffs for pollution damage caused by the Deepwater Horizon blowout in the Gulf of Mexico in 2010. The United States Court of Appeals for the Fifth Circuit held that any state common law claims for damage to fisheries, wildlife, and habitat were pre-empted by the federal *Clean Water Act* and *Outer Continental Shelf Lands Act*⁴⁶ regimes.⁴⁷ In its analysis, the Court noted that application of state law to petroleum operations under the outer continental shelf may compromise the efficient exploitation of federally-owned resources.⁴⁸ This analysis reflects the approach in the United States that, where a case presents a political question, the courts have often declined jurisdiction to hear the matter due to the separation of powers doctrine.⁴⁹

⁴⁰ *Supra*, note 3.

⁴¹ See *American Electric Power*, *supra* note 39 at 418, 423–28.

⁴² See *ibid* at 429.

⁴³ *Native Village of Kivalina v Exxonmobil Corp*, 696 F (3d) 849 at 856–57, 2012 US App Lexis 19870 (9th Cir 2012) [*Native Village Kivalina*].

⁴⁴ For this reason, the case has been suggested as “threaten[ing] the continued relevance of environmental common law” (R Trent Taylor, “The Obsolescence of Environmental Common Law” (2013) 40:1 Ecology L Currents 1 at 8).

⁴⁵ 745 F (3d) 157, 2014 AMC 2600 (5th Cir 2014) [*Deepwater Horizon* cited to F (3d)].

⁴⁶ 43 USC §§ 1331ff (2012).

⁴⁷ See *Deepwater Horizon*, *supra* note 45 at 169–74.

⁴⁸ See *ibid* at 163–64, 171.

⁴⁹ For a full iteration of the “political questions” doctrine, see *Baker v Carr*, 369 US 186 at 210–26, 82 S Ct 691 (1962).

In Canada, the matter of pre-emption is dealt with in the *Constitution* with subsection 52(1), which provides that any law that is inconsistent with the *Constitution* is, to the extent of the inconsistency, of no force and effect.⁵⁰ This provision does not directly resolve the question of provincial laws in conflict with federal laws, although the doctrine of paramountcy gives primacy to federal laws in cases of conflict.⁵¹ On the issue of displacement of common law causes of action by legislation, the *Constitution* is of little assistance. It simply leaves matters concerning management of natural resources largely in the hands of the provinces and territories (unless there are extraterritorial effects).⁵²

The question of pre-emption was briefly dealt with by the Supreme Court in *Hollick v. Toronto (City)*⁵³ (*Hollick*), a class action brought by some 30,000 people for injunctive relief and damages for the noise and odour effects of the City's Keele Valley landfill. The Court declined to certify the class action due to the diversity and complexity of individual claims. While considering the behaviour modification element for justification of class actions, however, it noted that:

Ontario's environmental legislation provides other avenues by which the complainant here could ensure that the respondent takes full account of the costs of its actions. While the existence of such legislation certainly does not foreclose the possibility of environmental class actions, it does go some way toward addressing legitimate concerns about behaviour modification.⁵⁴

In the subsequent case of *Canadian Forest Products v. British Columbia (Canadian Forest Products)*, the Supreme Court rejected the view that the Crown could only sue under statutory remedies for damage to public lands, holding that the common law of torts should not be neglected in environmental litigation: "[T]here is no legal barrier to the Crown suing for compensation as well as injunctive relief in a proper case on ac-

⁵⁰ See *Constitution Act, 1982*, s 52(1), being Schedule B to the *Canada Act 1982* (UK), 1982, c 11.

⁵¹ See Paul Stanton Kibel, "Canada's International Forest Protection Obligations: A Case of Promises Forgotten in British Columbia and Alberta" (1995) 6:2 *Fordham Envtl LJ* 231 at 249.

⁵² See *Constitution Act, 1867* (UK), 30 & 31 Vict, c 3, ss 92–92A, reprinted in RSC 1985, Appendix II, No 5. See also *R v Crown Zellerbach Canada Ltd*, [1988] 1 SCR 401 at 432–34, 49 DLR (4th) 161; *Friends of the Oldman River Society v Canada (Minister of Transport)*, [1992] 1 SCR 3 at 63–69, 88 DLR (4th) 1.

⁵³ 2001 SCC 68, [2001] 3 SCR 158 [*Hollick*].

⁵⁴ *Ibid* at para 35.

count of public nuisance, or negligence causing environmental damage to public lands, and perhaps other torts such as trespass.”⁵⁵

On the political questions doctrine, Canada generally takes a different approach than the United States, with cases such as *Operation Dismantle v. The Queen* expressly rejecting such a fetter on their judicial jurisdiction.⁵⁶

New Zealand is not a federal jurisdiction, and is thus not subject to the complications of multiple federal-state political jurisdictions and legal regimes. Nevertheless, the issue of pre-emption of the common law by statutory provisions does arise with a number of environmental statutes containing savings provisions, while others are silent on the question.

The *Resource Management Act 1991 (RMA)* is New Zealand’s core environmental and natural resource management statute. It provides a policy-making, planning, and decision-making framework for the use of land, air, and water guided by the core statutory purpose of “sustainable management of natural and physical resources.”⁵⁷

Section 23(1) of the *RMA* states that compliance with its provisions does not remove the need to comply with other acts or relevant principles of the common law. This saving provision was tested in *Varnier v. Vector Energy Ltd.*,⁵⁸ where the plaintiffs brought a claim for personal injury and property damage caused by electromagnetic emissions from overhead electric transmission lines. They relied upon the common law causes of action of nuisance, trespass, negligence, and the *Rylands v. Fletcher*⁵⁹ rule. Vector Energy argued that the activity was conducted pursuant to consent issued under the *RMA*, and as full consideration had already been given to those matters in the consent hearings they should not be litigated another time. It further argued that a planning authority may authorize a nuisance, and that the defence of statutory authority applied. Upon rejecting these arguments, Judge Salmon confirmed that, notwithstanding statutory authorization, subsection 23(1) of the *RMA* preserved the right, if available, to claim in trespass, negligence, nuisance, or under the *Rylands v. Fletcher* rule.⁶⁰

⁵⁵ *Canadian Forest Products*, *supra* note 4 at para 81.

⁵⁶ See *Operation Dismantle v The Queen*, [1985] 1 SCR 441 at 467–74, 18 DLR (4th) 481.

⁵⁷ *Resource Management Act*, *supra* note 3, s 5.

⁵⁸ (2000), [2004] NZRMA 193 (HC) [*Varnier*].

⁵⁹ [1868] UKHL 1, LR 3 HL 330 [*Rylands*]. See also *infra*, note 116 and accompanying text.

⁶⁰ See *Varnier*, *supra* note 58 at para 28. See also *Ports of Auckland Ltd*, *supra* note 2 at 611.

In the earlier case of *Ports of Auckland Ltd v. Auckland City Council*, Justice Baragwanath made the following comments regarding the interplay between planning regulation and the common law:

Counsel have in the past tended to treat the common law and statutory planning law as independent of one another, despite the obvious relevance of parliamentary policy as expressed in statute to the development of the common law. ...

...

The time should be long past when statute law and common law were seen as occupying different planes. Decision makers, including planning authorities and the Court on judicial review, must consider what construction of the legislation and what development of the common law will avoid anomaly and provide a sensible result.⁶¹

These cases may be contrasted with the approach in *Falkner v. Gisborne District Council*, where coastal landowners claimed the ancient common law right to protect one's land from the inroads of the sea, and asserted that a similar duty continued to bind the Crown. Justice Barker held that the coastal planning and resource management regime under the *RMA* created a statutory code that overrode pre-existing common law property rights in this case.⁶² The apparent conflict with subsection 23(1) of the *RMA* can perhaps be countered by the argument that the preservation of relevant common law principles in that section cannot stand against the broader public policy objectives of the legislation, which is to provide a comprehensive and integrated coastal management regime managed by statutory authorities. These objectives would be undermined if local communities were able to take planning matters into their own hands.

As illustrated above, a variety of approaches are used in different jurisdictions to address the question of pre-emption or displacement of the common law by statutory measures. Nevertheless, some general observations can be made. Firstly, environmental statutes often include savings provisions for common law rights and actions. Secondly, where such provisions are not included, the courts will examine the mischief and purpose of the legislation to see whether its objectives can be met while preserving common law rights of action. Thirdly, even where there are savings provisions, they will be interpreted and read in the context of the mischief and purpose of the legislation, and may be overridden if there are strong pub-

⁶¹ *Ports of Auckland Ltd*, *supra* note 2 at 609. See also *West Coast Regional Council v Royal Forest and Bird Protection Society of New Zealand* (2006), [2007] NZRMA 32 at para 73, 12 ELRNZ 269 (HC).

⁶² See *Falkner v Gisborne District Council*, [1995] 3 NZLR 622 at 632, [1995] NZRMA 462 (HC) [*Falkner*].

lic policy reasons against maintaining such rights. Finally, the courts in some jurisdictions have demonstrated a preference for interpreting statutory provisions in a way that is complementary to existing common law rights and obligations and produces a sensible and equitable outcome where possible.

D. Standing, Costs, and Other Barriers

Standing is distinct from justiciability, as it concerns the plaintiff's right to bring an action rather than the amenability to the judicial process of the issues to be tried.⁶³ In early environmental cases, the courts regarded standing as a condition-precedent to hearing arguments on the issues. If a party lacked some proprietary or special interest, the courts generally refused standing, even where there was a justiciable issue to be argued.⁶⁴ While approaches to standing are far from homogeneous, a general trend toward relaxation of strict standing requirements can be observed in many common law jurisdictions since the 1970s, whether through legislative intervention or judicial determination.⁶⁵

Costs of participation in the legal process can be a significant disincentive to potential litigants. Parties will face considerable legal, evidentiary, and personal costs, and costs may also be awarded against them if they are unsuccessful.⁶⁶ Legal aid may be available, but the income or disposable asset threshold for eligibility is often set at a level that precludes people of average financial means from obtaining assistance. Furthermore, legal aid may not be available to corporate or unincorporated bodies. It is not unknown for applicants in environmental and development litigation

⁶³ See Peter W Johnston, "Governmental Standing under the Constitution" in Leslie A Stein, ed, *Locus Standi* (Sydney: Law Book, 1979) 173 at 176. See also Warren CJ's extended discussion of justiciability and standing in *Flast*, *supra* note 25 at 95–101.

⁶⁴ See e.g. *Sierra Club v Morton*, 405 US 727 at 739–741, 92 S Ct 1361 (1972); *Australian Conservation Foundation v Commonwealth*, [1980] HCA 53, 146 CLR 493 at 547 [*Australian Conservation Foundation*].

⁶⁵ See e.g. *United States v Students Challenging Regulatory Agency Procedures*, 412 US 669 at 686–88, 93 S Ct 2405 (1973); *Tasmanian Wilderness Society Inc v Fraser*, [1982] HCA 37, 153 CLR 270 at 273; *Environmental Defence Society Inc v South Pacific Aluminium Ltd (No 3)*, [1981] 1 NZLR 216 at 220. See generally Lord Justice Brooke, "Environmental Justice: The Cost Barrier" (2006) 18:3 J Envtl L 341.

⁶⁶ See e.g. *Smith v Inco Ltd*, 2012 ONSC 5094 at para 110, 70 CELR (3rd) 150 [*Smith SC*] (costs award of C\$1.76 million); *Australian Conservation Foundation*, *supra* note 64 at 512, 558; *Peninsula Watchdog Group Inc v Waikato Regional Council*, [1996] NZPT 46, [1996] NZRMA 218 (NZ\$20,000 costs awarded against Peninsula Watchdog Group); Graham Mayeda, "Access to Justice: The Impact of Injunctions, Contempt of Court Proceedings, and Costs Awards on Environmental Protestors and First Nations" (2010) 6:2 JSDLP 143; Chris Tollefson, "Costs in Public Interest Litigation: Recent Developments and Future Directions" (2009) 35:2 Adv Q 181.

(and their legal advisors) to ask for security for costs, or use the threat of costs to dissuade opponents from participating in the legal process.⁶⁷

Public interest groups and individuals representing important matters of public interest, or bringing test cases or representative actions on environmental matters, are generally not immune from an award for costs against them. In an unsuccessful action opposing a gold mine development in New Zealand, Peninsula Watchdog (an environmental interest group) sought a public interest exception to the award of costs.⁶⁸ Judge Salmon rejected a general costs exception rule, stating:

[T]he possibility of being ordered to pay costs provides an incentive for litigants to examine rigorously whether they have seriously arguable cases and whether they have taken all reasonable steps available to limit the issues. A practice of not ordering a class of litigants to pay the costs of other parties would remove that incentive and could result in other parties having to incur greater costs than otherwise.⁶⁹

Where there is a significant and legitimate public interest matter or legal question to be answered, however, costs may be reduced, or not awarded at all.⁷⁰

Individual members of incorporated societies are usually not personally liable for costs, which is an important consideration when deciding in whose name to bring proceedings. Avoiding vexatious actions and exercising discipline over the way a case is argued increases the chances of avoiding, or minimizing, liability for costs.

Orders for security for costs can also be used strategically against environmental litigants with the knowledge that they have limited funds and assets. Rules of civil procedure generally allow such orders to be made in the court's discretion. Where legitimate environmental issues are raised by bona fide public interest litigants, however, courts often exercise their discretion not to order security for costs, thus balancing the need for matters of public interest to be determined with the allowance of an impe-

⁶⁷ See *Peninsula Watchdog Group Inc v Coeur Gold New Zealand Ltd*, [1997] 3 NZLR 463 at 471, [1997] NZRMA 501 (HC).

⁶⁸ See *ibid* at 469.

⁶⁹ *Ibid* at 473.

⁷⁰ See *ibid* at 472; *Oshlack v Richmond River Council*, [1998] HCA 11 at para 48, 193 CLR 72, 152 ALR 83; *West Coast ENT Inc v Buller Coal Ltd*, [2013] NZSC 133. Compare *Lockridge v Ontario (Director, Ministry of the Environment)*, 2012 ONSC 2316 at paras 176–77, 350 DLR (4th) 720 (application for protective costs order dismissed).

cunious litigant to put unfair pressure on their opponent.⁷¹ Other barriers to participation include access to information and the technical expertise to both provide expert evidence and interpret data at the hearing.⁷²

A related issue, particularly in North America, has been the increasing use of “strategic lawsuits against public participation” (SLAPPs),⁷³ whereby proponents of development will bring suits against individuals, or public interest groups using claims such as defamation, conspiracy, nuisance, and interference with contractual relations.⁷⁴ Often, the legal issue raised is secondary to the deterrent effect, draining the opponent of financial resources and the will to continue the proceedings. As Michaelin Scott and Chris Tollefson opine:

[W]inning the lawsuit is not the filer’s principal goal. Instead ... they use such suits for a variety of tangential purposes including silencing the target and draining its resources, discouraging future opposition, and offering a highly visible warning to others who might wish to express an opinion.⁷⁵

Courts have also been proactive in developing defences to such claims. In *Grant v. Torstar Corp.*, the Supreme Court of Canada applied the freedom of expression guarantee in subsection 2(b) of the *Canadian Charter of Rights and Freedoms* to provide a defence of “responsible communication of matters of public interest” against a SLAPP defamation suit.⁷⁶ Indeed,

⁷¹ See *Ratepayers and Residents Action Association Inc v Auckland City Council*, [1986] 1 NZLR 746 at 750 (CA). See also *Smail v Burton*, [1975] VR 776 at 777, [1975] 1 ACLR 74 (Vic SC).

⁷² For a useful review of evidentiary issues in environmental litigation, see Marc McAree, Robert Woon & Anand Srivastava, “Experts in Environmental Litigation” (Presentation delivered at the Symposium on Environment in the Courtroom, Faculty of Law, University of Calgary, 6–7 March 2015), online: <www.cirl.ca/files/cirl/mcareae_woon_srivastava-paper1_experts-en.pdf>. See also Steve Gold, “Causation in Toxic Torts: Burden of Proof, Standards of Persuasion, and Statistical Evidence” (1986) 96:2 Yale LJ 376; Roy Alan Cohen & Jodi F Mindnich, “Expert Testimony and the Presentation of Scientific Evidence in Toxic Tort and Environmental Hazardous Substance Litigation” (1991) 21:4 Seton Hall L Rev 1009; Beth M Kramer et al, “Recent Developments in Toxic Torts and Environmental Law” (2011) 47:1 Tort Trial & Ins Prac LJ 527 at 532–34.

⁷³ See Chris Tollefson, “Strategic Lawsuits Against Public Participation: Developing a Canadian Response” (1994) 73 Can Bar Rev 200 at 203–06.

⁷⁴ See e.g. *Daishowa Inc v Friends of the Lubicon* (1998), 39 OR (3d) 620 at 636, 158 DLR (4th) 699 (Ont Gen Div) [*Daishowa*]. See also *Frontenac Ventures Corporation v Ardoch Algonquin First Nation*, 2008 ONCA 534 at paras 14–34, 91 OR (3d) 1 (prosecution of protestors at mining exploration sites).

⁷⁵ Michaelin Scott & Chris Tollefson, “Strategic Lawsuits Against Public Participation: The British Columbia Experience” (2010) 19:1 RECIEL 45 at 46.

⁷⁶ See *Grant v. Torstar Corp.*, 2009 SCC 61 at paras 7, 52–54, 57–58, 65–66, 85–86, [2009] 3 SCR 640 [*Grant*]. See also *Quan v Cusson*, 2009 SCC 62 at para 2, [2009] 3 SCR 712

the courts in many jurisdictions are clearly upholding the importance of freedom of expression in matters of public interest.⁷⁷ Moreover, anti-SLAPP legislation has been enacted in a number of jurisdictions.⁷⁸

E. Class Actions

Another suggested way of ameliorating the various standing and costs barriers to environmental litigation is through class actions. In *Western Canadian Shopping Centres Inc. v. Dutton*⁷⁹ (*Dutton*) Chief Justice McLachlin noted the benefits of class actions in environmental cases:

The class action plays an important role in today's world. The rise of mass production, the diversification of corporate ownership, the advent of the mega-corporation, and the recognition of environmental wrongs have all contributed to its growth. ... Environmental pollution may have consequences for citizens all over the country. ... The class action offers a means of efficiently resolving such disputes in a manner that is fair to all parties.⁸⁰

The Chief Justice also recognized the benefits of “judicial economy by avoiding unnecessary duplication in fact-finding and legal analysis,” financial savings for litigants, and accountability of wrongdoers for widespread harm by allowing actions that may otherwise not be brought.⁸¹ A

[*Quan*]; *Dixon v Powell River (City)*, 2009 BCSC 406 at paras 46–47, 310 DLR (4th) 176; *Daishowa*, *supra* note 74 at 648–49.

⁷⁷ See *Reynolds v Times Newspapers Ltd*, [1999] UKHL 45, [1999] 4 All ER 609 at 614–15; *Jameel v Wall Street Journal Europe SPRL*, [2006] UKHL 44, [2007] 1 AC 359 (in the UK); *Grant*, *supra* note 76; *Quan*, *supra* note 76 (in Canada); *Theophanous v Herald & Weekly Times Ltd*, [1994] HCA 46, 182 CLR 104, 124 ALR 1; *Lange v Australian Broadcasting Corporation*, [1997] HCA 25, 189 CLR 520 (in Australia); *Lange v Atkinson*, [2000] NZCA 95, [2000] 3 NZLR 385 (in New Zealand, demonstrating a narrower approach). See also Andrew T Kenyon, “*Lange* and *Reynolds* Qualified Privilege: Australian and English Defamation Law and Practice” (2004) 28 Melbourne UL Rev 406.

⁷⁸ See e.g., in the United States, Cal Civ Proc Code, § 425.16 (2015) (California); *Anti-SLAPP Act of 2010*, 2009 DC Code § 16-5501 to 16-5505 (2009) (District of Columbia); NY Civ Rights Law § 70-a, 76-a (McKinney 2016); NY CPLR 3211 (McKinney 2006) (New York); Wash Rev Code § 4.24.500 to 4.24.525 (2016) (Washington). See also, *Protection of Public Participation Act*, SO 2015, c 23; *Protection of Public Participation Act 2008* (ACT). For commentary on anti-SLAPP legislation in a number of jurisdictions, see the various articles collected in Scott & Tollefson, *supra* note 75.

⁷⁹ 2001 SCC 46, [2001] 2 SCR 534 [*Dutton*]. The decision contains an excellent discussion of the history and functions of class actions (see *ibid* at paras 19–29). See generally Rachael Mulheron, *The Class Action in Common Law Legal Systems: A Comparative Perspective* (Oxford: Hart, 2004).

⁸⁰ *Dutton*, *supra* note 79 at para 26. See also *Comité d'environnement de la Baie Inc v Société d'électrolyse et de chimie Alcan Ltée*, [1990] RJQ 655 at 661, 6 CELR (NS) 150 (CA) [*Comité d'environnement de la Baie*].

⁸¹ *Dutton*, *supra* note 79 at paras 27–29 (quotation at para 27).

significant advantage of class actions is that litigants may be insulated, or partially insulated, from costs awards if unsuccessful, provided the action was not an abuse of process or involved no improper conduct.⁸²

Class actions may be allowed either through the inherent powers of the court, through the applicable rules procedure, or through specific class action legislation. In *Dutton*, the Court identified the following conditions for class actions in Canada: “(1) the class is capable of clear definition; (2) there are issues of fact or law common to all class members; (3) success for one class member means success for all; and (4) the proposed representative adequately represents the interests of the class.”⁸³ In most common law jurisdictions, class actions are governed by specific legislative provisions that generally follow these criteria.⁸⁴ Class actions are nevertheless relatively rare, due in part to the more widespread use of incorporated societies to undertake environmental litigation.

Courts in some jurisdictions have applied a restrictive approach to certifying class actions,⁸⁵ while in others, broad flexibility has been the norm.⁸⁶ In *Hollick*, the Canadian Supreme Court, while concerned that the courts not take an overly restrictive approach to certifying class actions, nevertheless declined to certify a class action. The Court considered that the differing nature, geographical, and temporal diversity of effects on individual claimants, and the complexity of potential individual claims,

⁸² See e.g. *Class Proceedings Act*, RSBC 1996, c 50, s 37. In some jurisdictions, such as Ontario, class action litigants are not insulated from costs awards, which are discretionary albeit guided by statutory guidelines (see e.g. *Smith SC*, *supra* note 66 at para 110, where costs of C\$1.76 million were awarded). See also Kirk Baert, “Costs in Class Proceedings: An Overview of the Statutory Regime in Canadian Common Law Provinces” in *6th Annual Symposium on Class Actions, April 2–3, 2009* (Toronto: Osgoode Professional Development Centre, 2009).

⁸³ *Dutton*, *supra* note 79 at para 48. See also *ibid* at paras 34–47, where the court indicates that statutory provisions generally reflect the common law requirements.

⁸⁴ See e.g. *The Civil Procedure Rules 1998* (UK), SI 1998/3132, rules 19.10–19.15 (in the United Kingdom); *Federal Rules of Civil Procedure*, 28 USCA § 23 (West 2016) (in the United States); *Class Proceedings Act*, SO 1992, c 6 (in Canada). See also, in Quebec, art 575 CCP.

⁸⁵ See e.g. *MacQueen v Sydney Steel Corp*, 2013 NSCA 143 at paras 183–86, 369 DLR (4th) 1, leave to appeal to SCC refused, 35706 (15 January 2015); *Pearson v Inco Ltd* (2002), 33 CPC (5th) 264, 115 ACWS (3d) 564 (Ont Sup Ct), rev’d (2005), 78 OR (3d) 641, 261 DLR (4th) 629 (Ont CA) (taking a more liberal approach at para 3). See also Patrick Hayes, “Exploring the Viability of Class Actions Arising from Environmental Toxic Torts: Overcoming Barriers to Certification” (2009) 19:3 J Envtl L & Prac 189.

⁸⁶ See e.g. *Plaunt v Renfrew Power Generation Inc*, 2011 ONSC 4087 at 75–127, 63 CELR (3d) 173; *Wamboldt v Northstar Aerospace (Canada) Inc* (2009), 72 CPC (6th) 386 at paras 15–21, 178 ACWS (3d) 33 (Ont Sup Ct); *Comité d’environnement de la Baie*, *supra* note 80.

meant that any common issue justifying a class action was negligible.⁸⁷ There is no doubt, however, that if the certification hurdle can be cleared, environmental class actions provide a very useful tool for cost-effective litigation on matters of widespread environmental concern.

II. The Interrelationship of Property, Contract, and Tort in Addressing Environmental Challenges

Property, contract, and tort are the core elements of private common law in relation to governing the use and development of land and natural resources. In many ways, they are mutually supportive and intricately related, but also protect rights and offer remedies that are independently enforceable. While property law will be studied in more depth in the following part (Part III), the supporting roles played by contract (Part II-A) and tort (Part II-B) will be analyzed below.

A. *Property Rights and Contract*

A starting point in this analysis is the acquisition and holding of property rights in land and resources. Following initial grants of interests in land by the Crown or state, property matters generally fall in the realm of private law in terms of title, transferability, subdivisibility, multiplicity of interests, and use as capital or as security for advances. Use and development of land is, of course, subject to limitations and discretionary decision making by state agencies through planning law and other environmental regulation.

Contract law is core to the transfer of title, subdivision of land, creation of lesser interests such as leases, easements, and profits à prendre, and use of land as security. Contract law can also provide for agreed restrictions on the use of land such as restrictive covenants. These mechanisms can be useful in achieving environmental objectives. Examples include easements over ecologically-significant land, or conservation covenants to preserve wilderness and forested areas. Once a contractual right or restriction relating to property is agreed, the contract often gives birth to specific proprietary rights and obligations that acquire a life of their own.⁸⁸

The same principle applies to other recognized interests in land created by contract (such as easements and restrictive covenants), which will generally run with the land to bind future owners and occupiers who were

⁸⁷ See *Hollick*, *supra* note 53 at para 32.

⁸⁸ See *City of London Corp v Fell*, [1993] QB 589 at 604, [1993] 2 All ER 449 (EWCA).

not parties to the original contract, and also prevent interference by third parties. In jurisdictions with a Torrens-type land registration system, such rights must usually be registered or noted against the title to ensure the interest does in fact run with the land to have lasting effect and avoid the effects of the principle of indefeasibility of title. A further element once a proprietary interest has been created is that various property law rules and principles—such as the doctrine of waste, riparian rights, and the common law right to support—will come into play and apply to the interest.

B. The Supportive Role of the Law of Torts

The law of torts is an important interrelated common law mechanism that provides, *inter alia*, protection of property rights against interference. It can also provide legal recourse against interference to individuals and property owners from uses of land and resources by other property owners or individuals. Some tortious remedies relevant to environmental challenges are exercisable by individuals independently of ownership of a property right, while others rely upon these rights. Examples of the former relevant to environmental harm include trespass to the person and negligence causing personal injury. Examples of the latter include trespass to land (Part II-B-1), nuisance (Part II-B-2), negligence causing property damage (Part II-B-3), strict liability (or the rule in *Rylands v. Fletcher*) (Part II-B-4), and the doctrine of waste (Part II-B-5). The categories of torts, and the way they are applied, are not fixed in time, and are capable of expansion through the judicial process to meet new circumstances and provide new remedies. While the principles applicable to these various torts can be found in any textbook on the subject,⁸⁹ it is useful to briefly review the main elements of property-related torts that play a supportive role in addressing environmental challenges.

1. Trespass to Land

Trespass to land is an area of great potential application to environmental pollution. An action lies where there is an intentional physical in-

⁸⁹ See e.g. Stuart Buck, “The Common Law and the Environment in the Courts” (2008) 58:3 Case W Res L Rev 621 (for a discussion on the tort of nuisance, trespass, the rule in *Rylands v. Fletcher*, and the doctrine of waste); Mark Latham, Victor E Schwartz & Christopher E Appel, “The Intersection of Tort and Environment Law: Where the Twains Should Meet and Depart” (2011) 80:2 Fordham L Rev 737 at 750–54; Robert V Percival, “The Clean Water Act and the Demise of the Federal Common Law of Interstate Nuisance” (2004) 55:3 Ala L Rev 717; Noga Morag-Levine, *Chasing the Wind: Regulating Air Pollution in the Common Law State* (Princeton, NJ: Princeton University Press, 2003).

vasion of a person's property. The tort has been used in a number of jurisdictions to address a wide variety of environmental harms. Projectiles, blasting debris, noise and vibration, water discharges, and water or airborne pollutants have all been the subject of claims.⁹⁰ The action has also been used to cover the release of exotic or noxious flora and fauna, and where environmental contaminants have settled onto neighbouring land. In the early United States case *Martin v. Reynolds Metals Company*, for instance, emissions of fluoride deposits that had settled on the plaintiff's land were held to be a trespass.⁹¹ The expansion of the doctrine has not been so enthusiastically embraced in other jurisdictions, however.⁹²

Some modern cases of trespass have not required physical contact with the land,⁹³ opening the way for the expansion of trespass to cases where airborne particulate or other toxic matter is carried across neighbouring land, whether or not it settles on the land itself.⁹⁴ Similarly, as the substrata of land is *prima facie* in possession of the surface owner or occupier,⁹⁵ trespass may lie where dissemination through the substrata of toxic chemicals, or other harmful substances, causes damage to the surface landowner or other right-holder.⁹⁶ This possibility has clear applications to oil and gas production technology, including "fracking".⁹⁷ In

⁹⁰ See e.g. *Watson v Mississippi River Power Co*, 156 NW 188, 174 Iowa 23 (Sup Ct 1916) (vibration); *Whalley v Lancashire and Yorkshire Railway Co* (1884), 13 QBD 131, 50 LT 472 (Eng CA) (water); *Borland v Sanders Lead Co*, 369 So (2d) 523, 2 ALR (4th) 1042 (Ala Sup Ct 1979) (pollution).

⁹¹ See *Martin v Reynolds Metals Company*, 342 P (2d) 790 at 793–94 (Sup Ct 1959), 221 Or 86. A similar decision was reached in *Renken v Harvey Aluminum (Inc)*, 226 F Supp 169 at 173, 1963 US Dist Lexis 7640 (D Or 1963) (emissions from an aluminium factory).

⁹² See e.g. *Geothermal Produce New Zealand Limited v Goldie Applicators Limited*, [1983] NZHC 8 (CA) (where the New Zealand High Court held that trespass was not an appropriate cause of action for spray drift from roadside spraying of herbicide that damaged plants on an adjacent property). See also Terence J Centner, "Damages from Pesticide Spray Drift under Trespass Law" (2014) 41:1 Ecology L Currents 1 at 3–4.

⁹³ See e.g. *Woollerton and Wilson Ltd v Richard Costain Ltd* (1969), [1970] 1 All ER 483 at 484, [1970] 1WLR 411 (Ch); *Didow v Alberta Power Limited*, 1988 ABCA 257, 88 AR 250.

⁹⁴ Perhaps by obstruction of sunlight, causation or exacerbation of respiratory conditions, obstruction of views, psychological harm, or interference with the agricultural viability or usability of the land.

⁹⁵ See *Star Energy Weald Basin Limited v Bocardo SA*, [2010] UKSC 35 at para 27, [2011] 1 AC 380.

⁹⁶ For example, the right to sink a water bore, or to take minerals or other substances.

⁹⁷ Fracking (also called hydraulic fracturing) is "the process of injecting liquid at high pressure into subterranean rocks, boreholes, etc. so as to force open existing fissures and extract oil or gas" (*Oxford Dictionaries, sub verbo* "fracking", online: <<https://en.oxforddictionaries.com/definition/fracking>>).

Coastal Oil & Gas Corp v. Garza Energy Trust, a gas field operator (Salinas) sought damages in trespass against a neighbouring operator (Coastal Oil) that had used hydraulic fracturing to enhance the flow of gas from its reservoir. Although the Texas Supreme Court held in this case that the “rule of capture” barred recovery, it stated that such an action may be available where a fracking operation damages a neighbouring well, or the reservoir.⁹⁸

Failing to remove an object or structure may also constitute a trespass.⁹⁹ Thus, an action may lie if a developer or miner has not undertaken restoration and rehabilitation works. Remedies for trespass include damages, injunctive relief, and the recovery of land.

2. Nuisance

Nuisance is traditionally regarded as the main environmental tort. Private nuisance has been defined as “invasions of an occupier’s interest in the beneficial use and enjoyment of land.”¹⁰⁰ Such interference may extend beyond direct physical intrusions, and may include noise, smell, vibration, and other interferences emanating from neighbouring land. The tort is therefore particularly well-suited as a means of challenging industrial activities, construction and infrastructure developments, agricultural activities, natural resource use, and other activities that damage or interfere with environmental and ecological values. Emissions of noise or vibration, offensive operations or trades, threats to health, comfort or safety, air and water pollution, spread of noxious weeds, and even blockage of solar access and solar reflection have been the subject of such claims.¹⁰¹

⁹⁸ See *Coastal Oil & Gas Corp v Garza Energy Trust*, 268 SW (3d) 1 at 17, 30 (Sup Ct Tex 2008), 172 Oil & Gas Rep 521.

⁹⁹ See *Konskier v B Goodman, Limited* (1927), [1928] 1 KB 421 (Eng CA) at 426, 44 TLR 91.

¹⁰⁰ Carolyn Sappideen & Prue Vines, eds, *Fleming’s The Law of Torts*, 10th ed (Sydney: Law Book, 2011) at 487. See also *Smith v Inco Ltd*, 2011 ONCA 628 at para 39, 107 OR (3d) 321 [Smith CA]:

One person’s lawful and reasonable use of his or her property may indirectly harm the property of another or interfere with that person’s ability to fully use and enjoy his or her property... [Nuisance requires this Court to determine] whether in all the circumstances the harm caused or the interference done to one person’s property by the other person’s use of his or her property is unreasonable.

For criticisms of the restriction of the tort to the protection of interests in land, see John Wightman, “Nuisance: The Environmental Tort? *Hunter v Canary Wharf* in the House of Lords” (1998) 61:6 Mod L Rev 870.

¹⁰¹ See e.g. *Hunter*, *supra* note 23 (offensive operations); *Copeland v Stanthorpe Shire Council* (1940), [1941] St R Qd 86 (Cir Ct) (health and safety); *McKinnon Industries Ltd*

Modern applications of the tort could include the release of genetically modified organisms.¹⁰² A number of recent cases in the United States have attempted to address climate change issues through actions in nuisance and other common law avenues.¹⁰³ In 2016, in *Juliana v. United States*, plaintiffs brought a suit alleging that the United States government had violated certain constitutional rights and the public trust doctrine by failing to take meaningful steps to address climate change. The Court has refused to dismiss the suit and substantive arguments are scheduled to be heard in early 2017.¹⁰⁴

In Canada, in *Smith v. Inco Ltd.*,¹⁰⁵ Ontario residents living in close proximity to a nickel refinery brought a class action for damages for loss of property values caused, *inter alia*, by soil contamination from the refinery's activities over sixty-six years. Their claims were based on trespass, nuisance, and strict liability. The claim in nuisance was ultimately unsuccessful, largely due to the failure to show actual and substantial physical injury to land. Nevertheless, the Court of Appeal considered in detail the relevance of private nuisance and confirmed that private nuisance could be available in such cases for unreasonable interference with a property owner's rights, even where the activity causing the harm was lawful and otherwise reasonable at the time.¹⁰⁶ The remedies available for private nuisance include damages, injunctive relief, or a combination of both, and in some circumstances the old privilege of abatement.¹⁰⁷

Public nuisance concerns collective personal or public injury or loss, and may assist those who experience, directly or indirectly, environmental

v Walker, [1951] UKPC 21, [1951] 3 DLR 577 (pollution); *French v Auckland City Corporation* (1973), [1974] 1 NZLR 340 (SC) (wind-blown thistle seeds); *Prah v Maretti*, 321 NW 2d 182, 108 Wis 2d 223 (Sup Ct 1982) (access to sunlight); *Bank of New Zealand v Greenwood* (1983), [1984] 1 NZLR 525 (HC) [*Bank of New Zealand*] (solar reflection).

¹⁰² See Christopher P Rodgers, "Liability for the Release of GMOs into the Environment: Exploring the Boundaries of Nuisance" (2003) 62:2 Cambridge LJ 371.

¹⁰³ See e.g. *American Electric Power*, *supra* note 39; *Native Village Kivalina*, *supra* note 43.

¹⁰⁴ See *Juliana v United States*, 46 Env't L Rep 20072, 2016 US Dist Lexis 52940 (D Or 2016). See also *Juliana v United States*, 217 F Supp (3d) 1224 at 1276, 2016 US Dist Lexis 156014 (D Or 2016) [*Juliana*] (where the court rejects a further motion by the United States government and oil company interveners to dismiss the action); "Landmark U.S. Federal Climate Lawsuit", *Our Children's Trust*, online: <<https://www.ourchildrenstrust.org/us/federal-lawsuit/>> ["Climate Lawsuit"].

¹⁰⁵ *Smith CA*, *supra* note 100.

¹⁰⁶ See *ibid* at paras 39–40.

¹⁰⁷ Injunctive relief is often preferable to damages in nuisance claims (see *Bank of New Zealand*, *supra* note 101 at 535).

harm of a widespread nature.¹⁰⁸ It concerns injury “to the property of mankind,”¹⁰⁹ and therefore has significant potential to redress environmental damage.¹¹⁰ Where a number of private nuisances flow from a common cause, a class action may be brought, or the Attorney-General may bring an action on behalf of the class of people objecting in “relator” proceedings. Such an action can be applied to a wide variety of environmental injuries and damage. Damages are available on much the same basis as for private nuisance, although injunctive relief will likely be preferred in the case of public nuisance.¹¹¹

3. Negligence Causing Property Damage

Negligence actions involving damage to land have included liability in relation to fire that spreads to a neighbour’s land, to water usage, and to dangerous articles or matters that cause damage.¹¹² Negligence therefore has considerable applicability to environmental harm as a result of development projects and industrial activities. In many of these situations, an action based on trespass or strict liability (the rule in *Rylands v. Fletcher*) may also be appropriate.

More recent applications of the principle in the environmental arena have included liability for the spread of noxious chemicals or other materials causing damage to land and crops. In *AG v. Geothermal Produce New Zealand Ltd*, a contractor was found negligent for spraying herbicides close to crops of a neighbouring landowner on a windy day.¹¹³ As the

¹⁰⁸ See e.g. *Southport Corporation v Esso Petroleum Co Ltd*, [1954] EWCA Civ 5, [1954] 2 QB 182, [1954] 3 WLR 200 (maritime oil pollution); *Baulkham Hills Shire Council v Domachuk*, (1988) 66 LGRA 110 (NSWSC) (smells from manufacture of compost). See also *AG v PYA Quarries Ltd*, [1958] EWCA Civ 1, [1957] 2 QB 169 at 191.

¹⁰⁹ *AG v Sheffield Gas Consumers Co* (1852), 43 ER 119 at 125, 3 De GM & G 304.

¹¹⁰ See *Cartwright v McLaine & Long Proprietary Ltd*, [1979] HCA 16, 143 CLR 549 at 553–54, 24 ALR 97.

¹¹¹ See the discussion on remedies available in public interest claims in *Canadian Forest Products*, *supra* note 4 at paras 73–81. See also *York Bros (Trading) Pty Ltd v Commissioner of Main Roads*, [1983] 1 NSWLR 391 at 399–402 (SC); *Wandsworth London Borough Council v Railtrack plc*, [2001] EWCA Civ 1236 at paras 24, 26–27, 32–33, [2002] QB 756.

¹¹² See *Wilson & Horton Ltd v AG*, [1997] 2 NZLR 513 at 519–24 (CA); *Streets Ice Cream Pty Ltd v Australian Asbestos Installations Pty Ltd* (1966), [1967] 1 NSW 50 at 52 (Sup Ct) (damage from dust).

¹¹³ See *AG v Geothermal Produce NZ Ltd*, [1987] 2 NZLR 348 at 352 (CA).

damage was foreseeable, the loss of income and reduced future profits were recoverable by the plaintiff.¹¹⁴

While the courts have shown a tendency to defer to legislative measures in the area of environmental liability,¹¹⁵ negligence actions for property damage provide a fertile ground for redress for legitimate complaints of environmental injury or damage that may be unaddressed through other legal avenues.

4. Strict Liability: *Rylands v. Fletcher*

Torts such as trespass, negligence, and nuisance all rely to some extent upon some element of fault by action or inaction. In contrast, strict liability allocates *prima facie* liability without proof of fault in the case of hazardous activities or the storage of hazardous substances on land which escape and cause damage.¹¹⁶ It is therefore of great utility in the environmental pollution area.

The principle has an inherently flexible application, which makes it particularly adaptable to modern circumstances involving activities of high risk to the environment. It has been applied to damage caused by fire, explosive or combustible materials, sewage and effluent, water, noise and vibration, industrial or mechanical failure, and damage from pesticides, herbicides, and chemicals.¹¹⁷

Rylands v. Fletcher is now regarded in the United Kingdom and in New Zealand as a special form of private nuisance liability.¹¹⁸ As such, it is “a remedy for damage to land or interests in land”¹¹⁹ and it follows that

¹¹⁴ See *ibid* at 354–55, 359–60, 366, 371–72. See also *Platt v Northland Chemical Applicators Ltd* (5 August 1988), Auckland A.32/84 at 38ff (NZHC); *Campbell v Speers* (2001), 10 NZCPR 329 at paras 22–23 (HC).

¹¹⁵ See e.g. *Cambridge Water Co v Eastern Counties Leather Plc*, [1993] UKHL 12, [1994] 2 AC 264 at 305, [1994] 2 WLR 53 [*Cambridge Water*].

¹¹⁶ See generally Lewis N Klar, *Tort Law*, 5th ed (Toronto: Carswell, 2012) ch 16. The original rule is found in *Rylands v Fletcher* (1866), LR 1 Ex 265 at 279–80, 159 ER 737, and was affirmed by the House of Lords in *Rylands*, *supra* note 59 at 339–40 (Lord Cairns).

¹¹⁷ See e.g. Klar, *supra* note 116 at 644–56. See also *Mihalchuk v Ratke* (1966), 57 DLR (2d) 269, 55 WWR 555 (Sask QB); *Cruise v Niessen*, 76 DLR (3d) 343, [1977] 2 WWR 481 (Man QB) (herbicide damage). Cf *Smith CA*, *supra* note 100 at para 103 (high levels of nickel oxide in soil from nickel factory not a non-natural use of land in an industrial area).

¹¹⁸ See e.g. *Cambridge Water*, *supra* note 115 at 297–300; *Transco plc v Stockport Metropolitan Borough Council*, [2003] UKHL 61 at para 9, [2004] 2 AC 1, [2003] 3 WLR 1467 [*Transco*]; *Hamilton v Papakura District Council*, [2000] 1 NZLR 265 at para 73 (CA).

¹¹⁹ *Transco*, *supra* note 118 at para 39.

“damages for personal injuries are not recoverable under the rule.”¹²⁰ In Australia, the doctrine has been subsumed into the law of negligence.¹²¹ The doctrine appears to survive as a tortious remedy in its own right in Canada,¹²² but in the United States, the doctrine has largely been subsumed under a more general head of liability for abnormally dangerous activities.¹²³

5. The Doctrine of Waste

The doctrine of waste is a tort that applies to grants of estates such as leases or life estates. It is defined as “any act or omission on the part of the tenant which causes a lasting alteration to the nature of the land ... to the prejudice of the person who has the remainder or reversion of the land.”¹²⁴

Waste has significant potential as a tool of environmental law enforcement in relation to leases of land, grants of life estates, and other interests in land where a reversionary interest remains. One important potential application is long-term Crown or government leases of agricultural, commercial, or industrial land. Waste may be a very useful remedy where environmental harm, or unauthorized damage to or depletion of natural resources, occurs through the fault of the grantee of such interests.

III. The Current Utility and Future Potential of Property Law in Addressing Environmental Challenges

Environmental governance and the holding and exercise of property rights are inherently in tension. Some environmentalists argue that private property rights militate against the interests of environmental pro-

¹²⁰ *Ibid* at para 35.

¹²¹ See *Burnie Port Authority v General Jones Pty Ltd* (1994), [1994] HCA 13, 179 CLR 520 at 521, 120 ALR 42.

¹²² See *Smith CA*, *supra* note 100 at para 104. While the Ontario Court of Appeal found against nickel being the result of a non-natural use of land in an industrial area, it nevertheless chose not to invalidate the doctrine of *Rylands v. Fletcher* in that jurisdiction.

¹²³ See Restatement (*Third*) of Torts § 20 (2010). See also Buck, *supra* note 89 at 626–29; JW Looney, “*Rylands v Fletcher* Revisited: A Comparison of English, Australian and American Approaches to Common Law Liability for Dangerous Agricultural Activities” (1996) 1 Drake J Agric L 149 at 160–64.

¹²⁴ *Halsbury’s Laws of England*, 5th ed, vol 62, *Landlord and Tenant* (London: LexisNexis, 2016) at HBE-324 “Liability for Waste”.

tection and ecological sustainability.¹²⁵ In contrast, many economists argue that strong property rights, with minimal interference from government, produce optimal long-term environmental outcomes. In their perspective, the sustainable use of land and natural resources is in the landowner's best interest to maintain and enhance the value of the underlying resource—thus avoiding the “tragedy of the commons.”¹²⁶

Traditionally, there has been little conceptual overlap between property law—which is classified primarily as a private law discipline—and environmental law and policy, considered to be predominantly a public law discipline. Property law, on the one hand, is mainly concerned with the legal rights of ownership, occupation, use, and dealings with land, including structures and natural resources that are part of land. Environmental law, on the other hand, is generally concerned with the effects of the exercise of such rights, particularly on neighbouring landowners, communities, and the public interest.

The identification of property rights in some natural resources, and the definition of environmental values that environmental laws aim to protect, is oftentimes challenging. The costs of extraction, processing, and marketing of natural resources can generally be quantified through conventional financial analysis. However, environmental values that may be harmed in these activities—such as aesthetics, amenity, and wilderness—are not easily quantifiable under conventional economic theories.¹²⁷ There are no true markets for such values, and few entities—private or public—are prepared to pay for their protection. Malte Faber, one of the leading proponents of ecological economics, notes the three fundamental deficits of mainstream economics when applied to environmental issues: “[F]irst, the lack of an adequate conceptualisation of nature, second, a failure to han-

¹²⁵ See e.g. Joseph H Guth, “Law for the Ecological Age” (2008) 9:3 VJEL 431 at 511; Eric T Freyfogle, *Why Conservation Is Failing and How It Can Regain Ground* (New Haven: Yale University Press, 2006) at 14–51; Carl J Circo, “Does Sustainability Require a New Theory of Property Rights?” (2009) 58:1 Kan L Rev 91.

¹²⁶ See e.g. Jonathan H Adler, “Back to the Future of Conservation: Changing Perceptions of Property Rights & Environmental Protection” (2005) 1:3 NYUJL & Liberty 987 at 1013–19. For commentary on “free-market environmentalism”, see Terry L Anderson & Donald R Leal, *Free Market Environmentalism for the Next Generation* (New York: Palgrave Macmillan, 2015); Carol M Rose, “Economic Claims and the Challenges of New Property” in Katherine Verdery & Caroline Humphrey, eds, *Property in Question: Value Transformation in the Global Economy* (Oxford: Berg, 2004) 275; Edella Schlager & Elinor Ostrom, “Property-Rights Regimes and Natural Resources: A Conceptual Analysis” (1992) 68:3 Land Economics 249.

¹²⁷ See generally Tom Tietenberg & Lynne Lewis, *Environmental and Natural Resource Economics*, 9th ed (Boston: Pearson, 2012) at 74–101; Jonathan M Harris & Brian Roach, *Environmental and Natural Resource Economics: A Contemporary Approach*, 4th ed (New York: Routledge, 2018).

dle the question of justice, and third, a failure to deal with the dynamics of time.”¹²⁸

There are also significant challenges in predicting the needs and value premises of future generations, and the appropriate horizons for such considerations. Despite these challenges, a growing body of writing explores the continuing relevance of property concepts to environmental protection and sustainable development of natural resources.¹²⁹

This part will first briefly discuss the nature of property rights (Part III-A) before exploring the use of traditional property rights in environmental governance (Part III-B). It will then briefly discuss relevant legislative and administrative measures that affect property rights in relation to land and natural resources (Part III-C). Finally it will explore recent innovations and new applications of property rights to address environmental challenges (Part III-D).

A. *The Nature of Property in Land and Natural Resources*

Just as the concept of sustainability is difficult to define and implement in an enforceable way, the notion of property defies concise definition.¹³⁰ Property, as an abstract construct, contributes to the management of social and economic relations in society. The concept is inherently dynamic, as it changes and adapts to the demands and circumstances of society.¹³¹ It is one of the foundational elements of economic productivity and of the creation of wealth in most societies.

¹²⁸ Malte Faber, “How to be an Ecological Economist” (2008) 66:1 *Ecological Economics* 1 at 2.

¹²⁹ See e.g. Schlager & Ostrom, *supra* note 126; Joseph L Sax, “Property Rights and the Economy of Nature: Understanding *Lucas v. South Carolina Coastal Council*” (1993) 45:5 *Stan L Rev* 1433; Carol M Rose, “Given-ness and Gift: Property and the Quest for Environmental Ethics” (1994) 24:1 *Envtl L J* 1; Sean Coyle & Karen Morrow, *The Philosophical Foundations of Environmental Law: Property, Rights and Nature* (Portland: Hart, 2004) at 1–7; Richard Barnes, *Property Rights and Natural Resources* (Oxford: Hart, 2009); Aileen McHarg et al, eds, *Property and the Law in Energy and Natural Resources* (Oxford: Oxford University Press, 2010); Kevin Gray, “Pedestrian Democracy and the Geography of Hope” (2010) 1:1 *J Human Rights & Environment* 45; David Grinlinton & Prue Taylor, eds, *Property Rights and Sustainability: The Evolution of Property Rights to Meet Ecological Challenges* (Leiden: Martinus Nijhoff, 2011).

¹³⁰ For discussion of the theoretical bases of property rights and obligations, see generally AM Honoré, “Ownership” in AG Guest, ed, *Oxford Essays in Jurisprudence* (London: Oxford University Press, 1961) 107; Jeremy Waldron, “Property Law” in Dennis Pater-son, ed, *A Companion to Philosophy of Law and Legal Theory*, 2nd ed (Chichester: Wiley-Blackwell, 2010) 9; JE Penner, “The ‘Bundle of Rights’ Picture of Property” (1996) 43:3 *UCLA L Rev* 711.

¹³¹ See e.g. Guth, *supra* note 125 at 511–12; Walter Lippmann, *Essays in the Public Philosophy* (Boston: Little & Brown, 1955) at 122; Murphy, *supra* note 9 at 186.

Individually-held property rights have never been absolute under the law.¹³² Such rights have always been subject to the rights of neighbouring property owners not to have their property adversely affected or damaged by others. This limitation is reflected in the common law torts of trespass to land and nuisance, discussed above. Moreover, private property rights have always been subject to limitations in the public interest often expressed through planning, environmental, and natural resource regulatory regimes. Arguably, the holding of property rights carries correlative obligations of good stewardship and respect for ecological processes, given the dependence of humanity on the health and sustainability of these processes.

Natural resources found on or in land—such as minerals, trees, structures, and other fixed objects—are normally considered to be part of the land. Migratory resources—such as natural water percolating under or flowing through land, geothermal steam, fish, wild animals, and oil and gas—are generally not wholly within the surface landowner’s bundle of rights. The common law has struggled to assign clear rules of ownership and management to such resources, often falling back on the ancient “rule of capture.”¹³³ The uncertainty of this regime and its inappropriateness for high-value strategic resources such as oil, gas, and geothermal energy, have led to intervention in many jurisdictions, such as the nationalization of ownership and control over these resources.¹³⁴

Today, many new types of rights that go far beyond traditional property rights are being created. These rights include water- and land-use permissions, water- and land-management regimes,¹³⁵ fisheries quota,¹³⁶

¹³² Even Blackstone considered that private property rights must give way to “public convenience” (Blackstone, *supra* note 20 at 129).

¹³³ The “rule of capture” provides that the first person to “capture” a migratory resource such as groundwater, oil, gas, or wild animals acquires ownership (see e.g. *Acton v Blundell* (1843), 152 ER 1223 at 1235, 12 M & W 324 (Exch); *Ballard v Tomlinson* (1885), 29 Ch D 115 at 121, 1 TLR 270 (Eng CA); *Ohio Oil Co v Indiana (No 1)*, 177 US 190 at 203), 20 S Ct 576 (1900).

¹³⁴ For example, the nationalization of oil by many common law jurisdictions leading up World War II as the strategic importance of petroleum was realized (see *Petroleum (Production) Act, 1934* (UK), 24 & 25 Geo V, c 36; *Mines (Petroleum) Act 1935* (Vic); *Petroleum Act, 1936–1954* (WA); *Petroleum Act, 1937* (NZ), 1937/27, s 3 repealed and replaced by *Crown Minerals Act 1991* (NZ), 1991/70, s 10 [*Crown Minerals Act* (NZ)]). Rights to control access to water have been asserted by many governments (see e.g. *Water Sustainability Act*, SBC 2014, c 15, 5; *Water Management Act 2000* (NSW), s 392; *Water and Soil Conservation Act 1967* (NZ), 1967/135, s 21(1) as repealed and replaced by *Resource Management Act*, *supra* note 3, s 354(1)(b)).

¹³⁵ See e.g. *Town and Country Planning Act 1990* (UK), c 8; *Ontario Planning and Development Act*, SO 1994, c 23, Schedule A; *Sustainable Planning Act 2009* (Qld); *Resource Management Act*, *supra* note 3.

mining and energy permits and access rights,¹³⁷ forestry harvesting rights,¹³⁸ rights of Indigenous peoples to traditional resources and food sources,¹³⁹ and rights to emit greenhouse gases (GHGs) under climate change measures.¹⁴⁰ The variety and novelty of many of these rights illustrate the nature of property as both a dynamic and adaptive concept that can be employed to achieve environmental protection and sustainable development objectives.

Despite its dynamic and constantly changing attributes, traditional common law concepts and rules of private property underpin western economic and social organization, and more specifically, the use and development of land and natural resources. They are likely to continue to do so for the foreseeable future. Nevertheless, the arguments for the primacy of private property rights continue to be challenged as the protection of those rights is often in direct conflict with ecological health and environmental values.

B. The Usefulness of Traditional Property Rights in Environmental Governance

Land ownership includes certain rights to use the land and the natural resources associated with it. Such rights extend to flora and most fauna on land, minerals below it, and certain riparian rights.¹⁴¹ Ownership

¹³⁶ For instance, the fisheries “quota management system” in New Zealand (see *Fisheries Act 1996* (NZ), 1996/88, ss 17ff [*Fisheries Act* (NZ)]) and the similar system in Iceland (see *The Fisheries Management Act 2006* (Iceland), arts 4–15 [*Fisheries Management Act* (Iceland)]).

¹³⁷ See e.g. *Mineral Resources Act 1989* (Qld); *Mines and Minerals Act*, RSA 2000, c M-17; *Crown Minerals Act* (NZ), *supra* note 134.

¹³⁸ See e.g. *Crown Forest Assets Act 1989* (NZ), 1989/99 (Crown forest licences); *Forests Act 1949* (NZ), 1949/19 [*Forests Act* (NZ)] (sustainable forest management permits); *Forests Act 1958* (Vic); *Forest Act*, RSBC 1996, c 157, arts 13–19.

¹³⁹ In New Zealand, formalized “protected customary rights” or “customary marine title” were created under the *Marine and Coastal Area (Takutai Moana) Act 2011* (NZ), 2011/3, s 46ff [*Marine and Coastal Act* (NZ)].

¹⁴⁰ Forms of property rights in carbon dioxide and other greenhouse gas emissions have been developed with emissions trading schemes such as the European Union’s Emissions Trading Scheme (EC, *Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC*, [2003] OJ, L 275/32 [*Directive 2003/87/EC*]).

¹⁴¹ An owner (or occupier) of land abutting a body of water has a common law natural right to access to and regress from the water. For more details on “riparian rights”, see EH Burn & J Cartwright, *Cheshire and Burn’s Modern Law of Real Property*, 18th ed (Oxford: Oxford University Press, 2011) at 163–65; *Laws of New Zealand*, “Water” by FM Brookfield (Wellington: LexisNexis NZ, 2016) at paras 46–55.

also carries obligations such as support for neighbouring land, and the obligation not to commit a nuisance or waste.

The obligation of support is a property law principle whereby the owner of land has a right of support for the land in its natural state. The right has been described as “a natural right of property or incident of his ownership.”¹⁴² It protects landowners from the removal of support—both laterally and vertically—through non-natural means. The right and its correlative obligation have clear applications to mining activities and to other uses and developments of land where support to adjacent or superjacent land is compromised.¹⁴³ Waste and nuisance have been discussed in detail in the previous section and will not be revisited in detail here, except to reiterate their importance in protecting the interests of a landowner in the ecological integrity and continued viability of their land and the natural resources on and under it. As mentioned above, easements, restrictive covenants, and leases can be used to protect access, views, and amenities. Such protection, however, depends upon the willingness of property owners to restrict the use of their property and of the person or entity seeking the restriction to pay the price or accept a correlational obligation.

In contrast to land, water is regarded by the common law as incapable of ownership in its natural state, but once lawfully contained it may become the property of the landowner.¹⁴⁴ Historically, water was a free resource that could be dammed, diverted, used for domestic purposes, or have waste discharged into it. Again, such rights are subject to limitations located mainly in the law of torts, including nuisance, trespass, and the *Rylands v. Fletcher* rule. Common law water rights have also been progressively restricted by legislation.¹⁴⁵ Air was historically regarded as a free resource and “free sink” for waste products, but has also been protected to a limited extent through the law of torts and, more recently, through clean air legislation.

Standing timber in forests is normally the property of the surface landowner, although from very early times was often subject to control by

¹⁴² *Howley Park Coal and Cannel Co v London and North Western Railway Co*, [1913] AC 11 at 25 (HL). See also *Holbeck Hall Hotel Ltd v Scarborough Borough Council*, [2000] QB 836 at paras 27–38, [2000] 2 WLR 1396 (Eng CA).

¹⁴³ See e.g. *Humphries v Brogden* (1850), 12 QB 739 at 744 (Eng).

¹⁴⁴ See *Burn & Cartwright*, *supra* note 141 at 163–65; *Brookfield*, *supra* note 141 at para 39; *Embrey v Owen* (1851), 6 Exch Rep 353 at 369, 155 ER 579.

¹⁴⁵ See *Burn & Cartwright*, *supra* note 141 at 165–67; *Brookfield*, *supra* note 141 at para 40.

the state.¹⁴⁶ Contemporary forestry activity on both public and private land has increasingly been subject to limitations through planning and resource management legislation and a range of specific statutory measures. Limitations on the harvesting of indigenous forests are a feature of many jurisdictions, and may be achieved through government policy, agreements or accords between government and industry,¹⁴⁷ or conservation or other protective legislation.¹⁴⁸

Fisheries were traditionally considered a common property resource to which the rule of capture applied. In inland waters where the bed of the water body was privately owned, access to the resource would be granted by the landowner. If the fisher had legal access to the body of water, he or she could take as property any fish caught in this way, but otherwise may be subject to a common law action in trespass. Today, ocean fisheries, aquaculture, and freshwater fisheries activities are closely regulated by states.¹⁴⁹

In many post-colonial states, including the United States, Canada, Australia, and New Zealand, common law customary or aboriginal rights can also limit the exercise of both public and private property rights. These limitations are discussed below.¹⁵⁰

C. Legislative and Administrative Measures Affecting Property Rights

Planning and resource management legislation restricting certain activities is a common feature of most common law jurisdictions. Local government usually has a responsibility to create planning instruments specifying the activities that may or may not be undertaken on land and administers permit systems for consent to activities. Water and atmospheric use and discharges are normally controlled under specific regulation.¹⁵¹

¹⁴⁶ See Klaus Bosselmann, “Sustainability and the Law” in Peter Salmon & David Grinlinton, eds, *Environmental Law in New Zealand* (Wellington: Thomson Reuters, 2015) 73 at 76.

¹⁴⁷ In New Zealand, a number of “accords” were reached between Government, the forestry industry, and environmental groups during the 1980s and 1990s to preserve indigenous forests in some areas in return for commercial forestry rights in others (see *Westco Lagan Ltd v AG*, [2001] 1 NZLR 40 (HC); The Right Honourable Sir Geoffrey Palmer, “*Westco Lagan v AG*” [2001] NZLJ 163.

¹⁴⁸ See e.g. *Forests (West Coast Accord) Act 2000* (NZ), 2000/45.

¹⁴⁹ See Part III-D-2, below.

¹⁵⁰ See Part III-D-5, below.

¹⁵¹ See e.g. *Resource Management Act*, *supra* note 3, s 5(2)(b) (attempting to bring the management of land, air, and water under a single integrated regime guided by the principle of sustainability). See also Salmon & Grinlinton, *supra* note 146 ch 11–14.

Such regimes generally prevail over common law property rights where there is a conflict.¹⁵²

The exercise of private property rights in land is closely controlled through rules in planning instruments.¹⁵³ Riparian rights to the foreshore, the bed of the sea, and the beds of lakes and rivers are significantly curtailed,¹⁵⁴ as are the traditional rights of landowners laterally and vertically.¹⁵⁵ Discharges into water are strictly controlled.¹⁵⁶ Access to minerals is also usually closely regulated by government.¹⁵⁷

The precise nature of planning consents and resource rights in conventional property terms is uncertain.¹⁵⁸ Chief Justice Mason, in the High Court of Australia, described aquaculture consents as “an entitlement of a new kind created as part of a system for preserving a limited public natural resource.”¹⁵⁹ One possibility, therefore, is to characterize resource consents as a new form of statutory property, governed by the rules contained in the statutes that create them but not subject to the general rules and statutes dealing with real or personal property.¹⁶⁰ They may, however, be subject to other generic principles of law, such as derogation from the grant, legitimate expectation, or other administrative law remedies that do not require a traditional real or personal property interest.

In addition to planning regulation, the major economic resources of minerals, fisheries and forestry are today heavily regulated by the state. Landowners have few rights to minerals under their land with primary

¹⁵² See *Falkner*, *supra* note 62 at 632.

¹⁵³ See e.g. *Resource Management Act*, *supra* note 3, ss 9(1), 9(3).

¹⁵⁴ See *ibid*, ss 12, 13.

¹⁵⁵ The vertical element is captured in the Latin maxim “*cujus est solum ejus est usque ad coelum et ad inferos*”. For the rights’ regulation under the *Resource Management Act*, see *ibid*, s 15 (controlling discharges of contaminants into the environment, including the atmosphere).

¹⁵⁶ See *ibid*.

¹⁵⁷ See e.g. *Crown Minerals Act (NZ)*, *supra* note 134, ss 8–11.

¹⁵⁸ For example, in the New Zealand context, “resource consents” for land and water use are described in section 122 of the *Resource Management Act*, *supra* note 3, as “neither real nor personal property” which has resulted in considerable judicial and academic debate: see e.g. *Aoraki Water Trust v Meridian Energy Ltd*, [2005] 2 NZLR 268 (HC); *Marlborough District Council v Valuer-General*, [2008] 1 NZLR 690 (HC); Laura Fraser, “Property Rights in Environmental Management: The Nature of Resource Consents in the Resource Management Act 1991” (2008) 12 NZJ Environmental L 145; David Grinlinton, “Evolution, Adaptation, and Invention: Property Rights in Natural Resources in a Changing World” in Grinlinton & Taylor, *supra* note 129, 275 at 291–97.

¹⁵⁹ *Harper v Minister for Sea Fisheries*, [1989] HCA 47, 168 CLR 314 at 325.

¹⁶⁰ See *Bienke v Minister for Primary Industries*, [1996] FCA 1220 at para 54, 135 ALR 128.

strategic minerals such as gold, silver, petroleum, and uranium retrospectively vested in the state. Other minerals have been progressively reserved to the state when it grants land rights, or by automatic reservation provisions in land and minerals legislation. Thus, landowners seldom own the minerals under their land. Miners generally need a permit from the state for mining activities.¹⁶¹ Access rights may need to be negotiated with the surface landowner.¹⁶² Compliance with planning and environmental regulations will often be required even where minerals are privately owned.¹⁶³

In regard to fisheries resources, most states are signatories to the *United Nations Convention on the Law of the Sea*¹⁶⁴ which recognizes the power of states to exercise sovereign rights over fisheries within their 200-mile exclusive economic zone (EEZ). This exercise is usually effected through a licensing system. Further limitations on such activities have been imposed to address matters of global concern—such as climate change and atmospheric pollution.

D. Recent Innovations in Utilizing Property Rights to Address Environmental Challenges

There are a number of regulatory and economic mechanisms that utilize property rights in new and innovative ways to achieve environmental objectives, such as ecologically-sustainable development. These mechanisms are primarily located in the areas of protecting conservation values, encouraging sustainable fisheries, promoting renewable energy, limiting carbon emissions, and protecting traditional rights of Indigenous peoples. Nevertheless, they demonstrate property-based approaches that can be applied to other natural resource development and ecological protection challenges.

1. Conservation Covenants and Easements

As noted above, covenants are a traditional property mechanism that restrict the use of neighbouring land for the benefit of the covenantee's own land. They can include height, bulk, and location restrictions on structures or plantings, protection of views and amenity, and limitations on the types of uses that land may be put to. This approach has been adopted at the institutional level in some jurisdictions with the use of con-

¹⁶¹ See e.g. *Crown Minerals Act* (NZ), *supra* note 134, ss 8(1)(a), 23–29.

¹⁶² See *ibid.*, ss 8(1)(b), 49–54.

¹⁶³ See e.g. *Gebbie v Banks Peninsula District Council*, [2000] NZRMA 553 (HC).

¹⁶⁴ 10 December 1982, 1833 UNTS 3, 21 ILM 1261 (entered into force 16 November 1994).

servation covenants to protect amenity and ecological values. These agreements can be simple property covenants agreed between government, local government agencies, or NGOs with a landowner, protecting environmental qualities and ecological systems for future generations by notification on the land title. Other jurisdictions have successfully put in place legislative and administrative systems that provide financial incentives or some other encouragement for landowners to set aside part of their land in perpetuity to be protected from development or clearance of vegetation. The mechanism is a statutory “open space covenant” that may be registered or noted against a land title—in which case it binds the future owners of the land.

In New Zealand, the *Queen Elizabeth the Second National Trust Act 1977* established the QEII National Trust as a statutory body with the core purpose of facilitating open space covenants with landowners.¹⁶⁵ This system has had great success in setting aside areas of rural land to protect indigenous vegetation and habitat, with the covenant having enduring force and effect to bind future owners and occupiers of the land. A further avenue of protection is the use of voluntary easements under the *New Zealand Walkways Act 1990*¹⁶⁶ or access arrangements under the *Walking Access Act 2008*¹⁶⁷.

In the United Kingdom, the National Trust has power under the *National Trust Act 1937*¹⁶⁸ to enter into conservation easements with landowners although this has not been widely used. The Law Commission has recommended legislation to widen the scope and availability of conservation easements in England, but the basis on which this will be achieved has not yet been settled.¹⁶⁹

2. Sustainable Fisheries Management: Quota Management Schemes

Some jurisdictions, such as Iceland, Australia, and New Zealand, have put in place fisheries management regimes aimed at ensuring the sus-

¹⁶⁵ See *Queen Elizabeth the Second National Trust Act 1977* (NZ), 1977/102. See also “About Us”, *QEII National Trust*, online: <www.openspace.org.nz/Site/About_QEII/default.aspx>.

¹⁶⁶ (NZ), 1990/32.

¹⁶⁷ (NZ), 2008/101.

¹⁶⁸ 1 Edw VIII & 1 Geo VI, c 1.

¹⁶⁹ See UK, Law Commission, *Making Land Work: Easements, Covenants and Profits à Prendre* (Law Com No 327) (London: The Stationary Office, 2011). See also Christopher P Rodgers, *The Law of Nature Conservation: Property, Environment, and the Limits of Law* (Oxford: Oxford University Press, 2013) at 288–312.

tainability of commercial fisheries.¹⁷⁰ These systems generally use a property rights-based “quota management system” whereby fishers are allocated or purchase quota to certain fisheries based on a percentage share of whatever the responsible government agency determines on an annual basis is a sustainable level of take.

In Iceland, all exploitable marine species within the 200-mile EEZ are deemed the common property of the Icelandic nation.¹⁷¹ Commercial fisheries are managed under a system of individual transferrable quotas (ITQs). A holder of a quota has a specific share of whatever is the annual total allowable catch (TAC) set by the Ministry of Fisheries for a particular species. While the legislation explicitly states that quota shares convey neither ownership of, nor irrevocable control over, harvesting rights, such rights are regarded as a valuable property right. They are divisible and transferrable, attract property taxes when transferred, are property for the purposes of divorce settlements, and attract inheritance tax.¹⁷²

In New Zealand, the *Fisheries Act 1996* has as its central purpose the sustainable utilization of fishery resources.¹⁷³ It contains a quota management scheme that allocates ITQ rights in certain species to fishers. As in Iceland, the ITQ entitles the holder to a certain proportion of a fish stock from the total allowable commercial catch (TACC) set by the Minister of Fisheries every year at a level that ensures that a particular species is fished sustainably. Because the quota is transferable and may be used as security, it has many characteristics of a property right. Individual transferable quotas are a hybrid form of property right incorporating elements of land titles and of company shares. They are similar to a non-exclusive profit à prendre in relation to the fish stock in respect of which they are granted, but they are expressed as a share—out of a total one million shares—of the TACC for that stock.¹⁷⁴ As such, they are not a right to an absolute tonnage of fish stock. Rather, they are a right to a proportion of the TACC for any particular year.¹⁷⁵ ITQs can be sold, transferred or mortgaged.

Fisheries quota management systems as applied in Iceland and New Zealand provide a very effective means of managing common property re-

¹⁷⁰ For full discussion, see Barnes, *supra* note 129 at 333–44, 351–65.

¹⁷¹ See *Fisheries Management Act (Iceland)*, *supra* note 136, s 1.

¹⁷² See Barnes, *supra* note 129 at 352–55.

¹⁷³ See *Fisheries Act (NZ)*, *supra* note 136, s 9.

¹⁷⁴ See *ibid.*, s 42. On the nature of ITQs under the New Zealand fisheries regime, see also *Lim v McLean*, [1997] 1 NZLR 641 (PC).

¹⁷⁵ See *NZ Fishing Industry Association (Inc) v Minister of Fisheries* (22 July 1997), CA 82/97, 83/97, and 96/97, at 15–16.

sources in an economically-efficient and environmentally-sustainable way. Such schemes may also have utility in the management of other common property resources including water, geothermal energy, and clean air. For example, with fresh water—provided there is sufficient data on annual and seasonal flows, water quality, and minimum levels that will maintain the catchment ecosystem in a sustainable state—it should be possible to create an annual maximum allowable take for allocation of such water, and develop a property-based system of quotas that entitles holders to a percentage of such take on an annualized (or other interval-based) time basis. Such a system would depend upon accurate, verifiable, and regularly updated sets of data, the extent to which historical claims and rights to water can be fairly accommodated, and the ability of new entrants to acquire quota for sustainable water-use activities. A registration system would allow dealings in such rights, and as property they would be legally defensible through the judicial process. It would not be difficult to devise similar systems for sustainable development of geothermal energy resources, and other scarce natural resources that have traditionally been regarded as *res communes*. Utilizing a quota management approach to address climate change through limiting greenhouse gas (GHG) emissions, for instance, has already been the subject of some development and experimentation with emissions trading schemes.¹⁷⁶

3. Promoting Renewable Energy: Feed-in Tariffs

Although based on economic mechanisms rather than property rights per se, the system of feed-in tariffs (FITs) creates strong economic incentives for production and reticulation of renewable energy. It has been implemented in number of countries with mixed success.¹⁷⁷ FIT systems are usually implemented through regulation, and generally have four common features: (1) a mandatory requirement for an electricity grid operator to allow connection and receive renewable electricity in priority to fossil fuel generated electricity; (2) a guaranteed price or “tariff” set at a level, and for a duration (usually twenty to twenty-five years) that allows a profitable economic return to a renewable energy producer; (3) the ability to

¹⁷⁶ See below, Part III-D-4.

¹⁷⁷ For a useful discussion of the evolution of feed-in tariff design in Germany, Spain and France, see David Jacobs, *Renewable Energy Policy Convergence in the EU: The Evolution of Feed-in Tariffs in Germany, Spain and France* (London: Routledge, 2016). See also David Grinlinton & LeRoy Paddock, “The Role of Feed-in Tariffs in Supporting the Expansion of Solar Energy Production” (2010) 41:4 U Tol L Rev 943 at 949–52; Hans-Josef Fell, “Feed-in Tariff for Renewable Energies: An Effective Stimulus Package Without New Public Borrowing” (2009), Working Paper, online: <<https://www.hans-josef-fell.de/content/index.php/dokumente/documents-in-foreign-languages/english/368-04-2009-english-washington-paper/>>.

accommodate two-way traffic of electricity between the grid and the renewable energy supplier; and (4) the ability to average the increased cost of the renewable electricity between grid and utility operators, and recover that cost from electricity consumers at an acceptable rate.

The additional cost to the consumer is marginal and has not caused significant opposition in those jurisdictions where FIT schemes have been successfully implemented.¹⁷⁸ Some FIT schemes, however, have been scaled back in recent years, or abandoned due to high costs and the lack of competitiveness with current lower prices for fossil fuels.¹⁷⁹

The FIT system could be applied to other natural resources and processes to encourage more environmentally-friendly and sustainable methods of extraction, transportation, and processing and distribution of certain goods and services. The reticulation of electricity, industrial and automotive fuels (including more sustainable alternatives), public transportation, and food distribution systems are examples of possible future avenues for FITs.

4. Tradeable Property Rights in Carbon Emissions: Emission Trading Units

Addressing greenhouse gas (GHG) emissions through the use of economic instruments is a relatively recent and innovative use of property rights to achieve sustainable outcomes. Signatories to the 1997 Kyoto Protocol to the *United Nations Framework Convention on Climate Change*¹⁸⁰ (UNFCCC) of 1992 agreed to reduce levels of GHGs—variable depending upon the country—by 2012. Many countries did not achieve their targets, and in 2015 the twenty-first Conference of the Parties to the UNFCCC (COP 21) agreed to a new approach to combatting climate change based on “nationally determined obligations” (the “Paris Agreement”).¹⁸¹

Some countries and regions have introduced emissions trading schemes as an economics or market-based approach to reduce GHG emis-

¹⁷⁸ See Grinlinton & Paddock, *supra* note 177 at 949.

¹⁷⁹ See Lincoln L Davies & Kirsten Allen, “Feed-In Tariffs in Turmoil” (2014) 116:3 W Va L Rev 937 at 940–41, 977–84, 991–94. See also Adam Vaughan, “UK Solar Power Installations Plummet After Government Cuts”, *The Guardian* (8 April 2016), online: <www.theguardian.com>; Paul Gipe, “Two Steps Forward, One Back: Ontario Cancels Feed-in Tariffs for Large Projects”, *Renewable Energy World* (10 June 2013), online: <www.renewableenergyworld.com>.

¹⁸⁰ 4 June 1992, 1771 UNTS 107, 31 ILM 849 (entered into force 21 March 1994).

¹⁸¹ For a full account of COP 21 and the Paris Agreement of 2015, see “The Paris Agreement”, *United Nations Framework Convention on Climate Change*, online: <unfccc.int/paris_agreement/items/9485.php>.

sions.¹⁸² As with quota management schemes, such systems essentially create transferrable quasi-property rights to emit GHGs. Emissions trading units (ETUs) are usually issued free by governments to existing industrial, forestry, fisheries, and agricultural emitters. They are intended to be tradeable domestically and internationally. Emitters must surrender units in proportion to specified levels of emissions. Over time, the level of emissions can be managed through the government setting caps on levels of GHGs in much the same way as a fisheries quota may be adjusted under quota management schemes. Again, this scheme represents a new form of property right in the nature of a reverse, non-exclusive profit à prendre comprising the right to emit GHGs into the atmosphere. Since the *raison d'être* for the UNFCCC and associated climate change measures is to stabilize the world's climate, this form of property right inherently accommodates sustainability objectives.

To date, such systems have been relatively ineffective in national and regional systems, largely due to the generous levels of emissions that have been allowed to existing polluters, and the inability to agree on upper caps or sustainable levels of emissions. Historic industrial emitters, including the fossil fuel industry, are very powerful interest groups in many jurisdictions, including the United States, Canada, and the European Union. Governments have been reluctant to propose emissions trading schemes that are too harsh to avoid political fallout from these groups and the economic impacts of such measures. Nevertheless, the concept of using universally-tradeable property rights to reduce GHG emissions remains a powerful potential mechanism to address climate change, provided good science can establish the upper sustainable limits of various GHG emissions and the global community can agree on a universally applicable and compliant trading system.¹⁸³ This possibility is a tall order, particularly in the current era of resurgent nationalism in many countries.

Similar property-based approaches could be applied to damming, diverting, or taking water from natural sources such as aquifers, rivers, and lakes, or discharging contaminants into bodies of water. Other natural re-

¹⁸² See e.g. *Directive 2003/87/EC*, *supra* note 140; "Phases 1 and 2 (2005-2012)", *European Commission*, online: <ec.europa.eu/clima/policies/ets/pre2013/index_en.htm>. See also the New Zealand scheme introduced under the *Climate Change Response (Emissions Trading) Amendment Act 2008* (NZ), 2008/85 [*Climate Change Response Amendment Act*].

¹⁸³ For a discussion of emissions trading schemes generally and reasons for their failures in some jurisdictions, see generally A Denny Ellerman, Frank J Convery & Christian de Perthuis, *Pricing Carbon: The European Union Emissions Trading Scheme* (Cambridge: Cambridge University Press, 2010); Bernd Hansjürgens, ed, *Emissions Trading for Climate Policy: US and European Perspectives* (Cambridge: Cambridge University Press, 2005).

sources could also be managed—and protected—by applying similar approaches to the use of the resource, or the management of activities or substances that degrade or harm the environmental and ecological qualities of the resource.

5. Protecting Indigenous Resource Uses

Indigenous claims to land and natural resources, and measures to provide redress for past injustices, have increased in recent years in post-colonial jurisdictions such as Canada, the United States, Australia, South Africa, and New Zealand. Addressing these claims has proved challenging and economically costly, and has added further layers of qualifications and restrictions on the exercise of private property rights. Often, objections to land and resource developments by Indigenous peoples are based on interference with cultural, spiritual, and environmental values. There are many examples where court decisions have restricted private property rights in favour of those elements.¹⁸⁴

New types of usufructuary and similar property rights for Indigenous peoples have been created by legislative intervention. These rights recognize traditional and customary uses that have historically been overlooked or held to be incompatible with the common law.¹⁸⁵ In New Zealand, for example, Māori groups can now apply for “protected customary rights” or “customary marine title” if certain criteria—including proof of historic and continuing use of the area and natural resources therein—are met.¹⁸⁶

Many elements of Indigenous approaches to land and natural resource management incorporate ecologically-sustainable practices. Thus, re-vesting property rights in Indigenous peoples, or at least providing a

¹⁸⁴ In Australia, see e.g. *Mabo v Queensland (No 2)*, [1992] HCA 23, 175 CLR 1 at 57 [*Mabo*]; *Wik Peoples v Queensland*, [1996] HCA 40, 187 CLR 1 at 9, 141 ALR 129; *Members of the Yorta Yorta Aboriginal Community v Victoria*, [2002] HCA 58, 214 CLR 422 at 444–47, [2003] 3 LCR 185. Aboriginal customary rights in resources can exist independently of rights in land (see *Yarmirr v Northern Territory of Australia*, (1997) 74 FCR 99 at 103, 143 ALR 687 (FCA); *Mason v Tritton* (1994), 34 NSWLR 572 at 574, 84 LGERA 292 (CA)). In Canada, see e.g. *Guerin v The Queen*, [1984] 2 SCR 335, 13 DLR (4th) 321; *Baker Lake (Hamlet of) v Canada (Minister of Indian Affairs and Northern Development)*, [1980] 1 FC 518, 107 DLR (3d) 513. In New Zealand, see e.g. *AG v Ngati Apa*, [2003] 3 NZLR 643 (CA) [*Ngati*].

¹⁸⁵ For a full discussion of the intersection of common law “property rights” and “native title rights and interests” in the Australian context, see *Yanner v Eaton*, [1999] HCA 53 at paras 17–56, 201 CLR 351. See also the *Native Title Act 1993* (Cth), s 223(1) (definition of “native title or native title rights and interests”). In the New Zealand context, see *Ngati*, *supra* note 184 at paras 29–34, 99–101, 143–49, 183–86, 208.

¹⁸⁶ See *Marine and Coastal Act (NZ)*, *supra* note 139, ss 46ff, 51, 58.

greater say in how land and resources are used in areas of traditional significance to those peoples, offers an alternative land and resource governance model. Such a model has proven particularly useful in remote ecologically-fragile areas such as Northern Canada, where there is a predominant Indigenous population and the potential for ecologically-damaging natural resource development is high.¹⁸⁷

E. The Public Trust Doctrine and the Protection of Public Property

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.¹⁸⁸

The public trust doctrine sits a little uncomfortably in any categorization of common law actions and remedies to address environmental damage. It is technically neither a part of the law of torts (although it bears some conceptual similarity to public nuisance) nor a part of contract or private property law. It perhaps sits most comfortably in the constitutional and administrative law realm, given its nature resembling a fiduciary duty where the government must protect, in the public interest, land and resources over which it has title or control. The public trust doctrine is part of the common law and is increasingly relevant as a mechanism to address environmental challenges that may otherwise not be justiciable by individuals or public interest groups.

Henrici de Bracton's exposition of common property, quoted above, reflects early Roman conceptions of *res communes*¹⁸⁹ and is often cited as the foundational principle for the public trust doctrine.¹⁹⁰ It is also found in

¹⁸⁷ See generally Canada, First Nations and Natural Resource Development, "Advancing Positive, Impactful Change: Step One: Finding the Ways and Means for First Nations to Fully Share in Natural Resource Development", by Working Group on Natural Resource Development (Ottawa: FNNRD, February 2015) at 8-12, 19, 24, 29, 31, 33-34, online: <www.afn.ca/uploads/files/Working-Group-on-Natural-Resource-Development-Report.pdf>.

¹⁸⁸ Henrici de Bracton, *De Legibus et Consuetudinibus Angliae*, ed by George E Woodbine, translated by Samuel E Thorne (Selden Society, 1968), vol 2 at 39. See also *R v East Sussex County Council*, [2015] UKSC 7 at para 34, [2015] AC 1547 [*East Sussex County Council*].

¹⁸⁹ See Inst 2.1.1 (translated by Thomas Collett Sandars) (the air, running water and the sea are resources "common to mankind"). For a helpful review of the historical origins of the public trust doctrine, see *Canadian Forest Products*, *supra* note 4 at paras 74-76.

¹⁹⁰ See e.g. *Blundell v Catterall*, (1821) 5 B & Ald 268 at 280-84, 106 ER 1190; *East Sussex County Council*, *supra* note 188 at paras 34, 106-13.

civil law jurisdictions derived from Roman law.¹⁹¹ In its broadest sense, the public trust doctrine applies to common natural and cultural resources that remain in public ownership, such as un-alienated government lands, parks and reserves, and land beneath navigable waters. The doctrine holds that the state (or Crown) holds title to such lands and resources in trust for the benefit of the public and therefore may not alienate them to exclusive private ownership or use.¹⁹²

In the United States, the modern use of the common law doctrine to protect environmental values and natural areas began with *Illinois Central Railroad v. Illinois*.¹⁹³ This case concerned the grant of a significant part of the foreshore and lake bed of Lake Michigan by the Illinois government to a private railroad company. The Court invoked the common law to uphold a later revocation of that grant by the state on the basis that the submerged lands were “held in trust for the people of the state, that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties.”¹⁹⁴ This decision paved the way for the expansion of the doctrine through various judicial applications, and supplemental legislation, to federal and state parks and reserves, wilderness areas, wildlife, beaches, and recreational areas.¹⁹⁵ The ability of the government to bring actions in the public interest is further exemplified in legislation such as the *Comprehensive Environmental Responses, Compensation, and Liability Act*.¹⁹⁶ Some states, such as Hawaii, have incorporated the public trust doctrine into their state constitutions.¹⁹⁷ Recently, in *Juliana v. United States*,¹⁹⁸ a lawsuit was brought against the United States government, alleging it had violated constitutional rights and the public trust doctrine by failing to address climate change in an effective way. The government and various interveners, including oil companies, have

¹⁹¹ See e.g. arts 919–920 CCQ (common property in navigable rivers and streams, beaches, ports, and harbours).

¹⁹² The *locus classicus* on this subject in the environmental and natural resources context is Joseph L Sax, “The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention” (1970) 68:3 Mich L Rev 471.

¹⁹³ 146 US 387, 13 S Ct 110 (1892) [cited to S Ct].

¹⁹⁴ *Ibid* at 118.

¹⁹⁵ See Molly Selvin, “The Public Trust Doctrine in American Law and Economic Policy, 1789-1920” [1980] 6 Wis L Rev 1403 at 1437–40; Anna Lund, “Canadian Approaches to America’s Public Trust Doctrine: Classic Trusts, Fiduciary Duties & Substantive Review” (2012) 23:1 J L Env L & Prac 105 at 112–14.

¹⁹⁶ 42 USC ch 103 § 9601–9675 (Supp 1987).

¹⁹⁷ See Hawaii Const art XI, § 1.

¹⁹⁸ *Juliana*, *supra* note 104.

attempted to have the suit dismissed, but so far without success. One of the areas that they have challenged is the part of the claim based on the public trust doctrine. In rejecting a motion to dismiss, Judge Aiken devoted extensive analysis to the applicability of the public trust doctrine.¹⁹⁹ Without determining the issue, the judge appeared to favour the view that the atmosphere could be regarded as a public trust asset along with the seas, waterways, and other public natural resources.²⁰⁰ Substantive argument in the case is to be heard in early 2017.²⁰¹ Should the claim be upheld, this case will have great significance in the area of climate change litigation.

Other jurisdictions have shown a more conservative approach to the development of the doctrine. In Canada, the courts were initially reluctant to follow the broad approach used in the United States, preferring to apply traditional concepts of trust law to determine the substantive merits of a claim.²⁰² *Green v. Ontario*²⁰³ concerned a lease by the provincial government to a private corporation of land on the shores of, and under, Lake Ontario. Applying the public trust doctrine, the plaintiff sought an injunction to prevent excavation and to require restoration of the lakeshore and bed to its pre-excavation state. Judge Lerner allowed an application to strike out the claim based primarily on the plaintiff's lack of standing. In the course of the argument, the judge considered whether a public trust was established under section 2 of the *Provincial Parks Act 1970*.²⁰⁴ This section provided that provincial parks were dedicated to the people of the province, others, and future generations for their enjoyment and education. The significance of the decision is the application by Judge Lerner of traditional trust principles to find that the argument for the existence of a public trust failed for uncertainty of language in the statute.²⁰⁵

¹⁹⁹ See *ibid* at 1252–61.

²⁰⁰ See *ibid* at 1255.

²⁰¹ See “Climate Lawsuit”, *supra* note 104.

²⁰² See Lund, *supra* note 195 at 126–28; Sarah Jackson, Oliver M Brandes & Randy Christensen, “Lessons from an Ancient Concept: How the Public Trust Doctrine Will Meet Obligations to Protect the Environment and the Public Interest in Canadian Water Management and Governance in the 21st Century” (2012) 23:1 J Envtl L & Prac 145 at 152, 157.

²⁰³ (1972), [1973] 2 OR 396, 34 DLR (3d) 20 (H Ct J) [*Green* cited to OR].

²⁰⁴ RSO 1970, c 371.

²⁰⁵ See *Green*, *supra* note 203 at 402–05.

In some territories, specific legislation now expressly provides for such a public trust.²⁰⁶ In addition, recent decisions appear to lean toward the acceptance of the doctrine where it is clear there is some fiduciary obligation on the government to protect waters and other natural resources for the public.²⁰⁷ It has been argued that the development of the public trust doctrine in Canada has lagged behind developments in the United States due to the tendency for litigants in Canada to seek review of the substantive merits of a decision or approach that threatens the public trust, rather than procedurally-based litigation. As courts are traditionally reluctant to involve themselves in policy decisions, litigation has been somewhat constrained in Canada with legal arguments focusing on the fiduciary responsibility of government and substantive challenges to decisions.²⁰⁸ Nevertheless the Supreme Court in *Canadian Forest Products* has opened the door to further development of the public trust doctrine in Canada and, in the view of some commentators, confirmed “a greater role for the common law in environmental protection.”²⁰⁹

The development of the doctrine in the United Kingdom has been blighted by the early nineteenth century case of *Blundell v. Catterall*²¹⁰ where the Court of King’s Bench rejected a general public right to use the public foreshore for bathing and recreation. This decision was approved by the Court of Appeal in 1904,²¹¹ and courts have shown reluctance to apply the doctrine until recently. This reluctance may be due, in part, to the intervention of statutory protection of public lands and reserves, such as in the *National Parks and Access to the Countryside Act, 1949*,²¹² and in the reluctance of courts to recognize legal rights and obligations in “ownerless things.”²¹³ Nevertheless, a number of Lords in the recent decision in *R v.*

²⁰⁶ See e.g. *Environment Act*, RSY 2002, c 76, ss 2, 7; *Environmental Rights Act*, RSNWT 1988, c 83, ss 1, 6(1). See also *Act to Affirm the Collective Nature of Water Resources and Provide for Increased Water Resource Protection*, CQLR c C-6.2, Preamble, arts 1, 8 (water as a *patrimoine commun*, or collective resource, and state as custodian of the resource must enforce interests of the nation in water resources).

²⁰⁷ See *Canadian Forest Products*, *supra* note 4 at para 81. See also Lund, *supra* note 195 at 133–35; and Barbara von Tigerstrom, “The Public Trust Doctrine in Canada” (1997) 7 J Env L & Prac 379 at 392–93;

²⁰⁸ See Lund, *supra* note 195 at 138–43.

²⁰⁹ *Ibid* at 133.

²¹⁰ *Supra* note 210.

²¹¹ See *Brinckman v Matley*, [1904] 2 Ch 313, [1904-1907] All ER Rep 941 (Eng CA).

²¹² (UK), 12, 13 & 14 Geo VI, c 97, s 5 (the Act provides, *inter alia*, for conserving and enhancing the natural beauty of certain areas through the establishment of national parks).

²¹³ Jan S Stevens, “The Public Trust: A Sovereign’s Ancient Prerogative Becomes the People’s Environmental Right” (1980) 14:2 UC Davis L Rev 195 at 197–98.

East Sussex County Council discussed the current state and appropriateness of the public trust doctrine in England.²¹⁴ The case was a dispute between the Newhaven Port company and the local council that had established a “village green” under the *Commons Act 2006*²¹⁵ over a part of the Port company’s harbour facilities and foreshore. While the decision did not turn on the public trust doctrine, Lords Neuberger and Hodge discussed at length the uncertainty of the law in relation to public rights of access to the foreshore for recreation.²¹⁶ Lord Carnwath went further, expressing the view that, while discussion of public rights to access the foreshore was not necessary for the decision in this case, judicial comment was appropriate given “the more general issues discussed in argument, which have not previously been considered at this level and which may become relevant in other cases.”²¹⁷ He undertook a detailed critical analysis of the earlier decisions, and a comparative survey of the approach in other common law jurisdictions, including the United States.²¹⁸ While the decision does not lay down new law on the public trust doctrine in England, it leaves the door open for future application of the doctrine in appropriate cases.

The public trust doctrine has, to date, had little influence in Australia or New Zealand.²¹⁹ This limited use is partially the result of comprehensive legislation that provides effective environmental management of the coastal marine area and for national parks and reserves.²²⁰ In New Zealand, it also reflects the use of the Queens Chain, or esplanade strips, from the early days of colonial settlement, to protect public access to the banks of rivers, lakes, and the sea.²²¹

²¹⁴ See *East Sussex County Council*, *supra* note 188 at paras 33–35, 106–15.

²¹⁵ (UK), c 26.

²¹⁶ See *ibid* at paras 32–51.

²¹⁷ *Ibid* at para 105.

²¹⁸ See *ibid* at paras 106–136.

²¹⁹ See Bates, *supra* note 26 at paras 2.50–2.52. See also Tim Bonyhady, “A Usable Past: The Public Trust in Australia” (1995) 12:5 *Environmental & Planning LJ* 329.

²²⁰ In Australia, see e.g. *Coastal Protection and Management Act 1995* (Qld); *Sustainable Planning Act 2009* (Qld); *National Parks and Wildlife Act 1974* (NSW); *Nature Conservation Act 1992* (Qld), ss 14–23. In New Zealand, see *Resource Management Act*, *supra* note 3, ss 12, 28, 30, 56–58A, 64, 117, Part 7, Part 7A; *National Parks Act 1980* (NZ), 1980/66; *Reserves Act 1977* (NZ), 1977/66.

²²¹ Queen Victoria’s instructions to the Governor William Hobson in 1840 required margins of the sea coast and navigable streams in New Zealand to be reserved “for the recreation and amusement of the inhabitants” (Mark Hickford, “Law of the Foreshore and Seabed” (12 June 2006) *Te Ara: The Encyclopedia of New Zealand*, online: <www.TeAra.govt.nz/en/law-of-the-foreshore-and-seabed/page-3>). This requirement is

IV. The Argument for an Inherent Duty to Exercise Property Rights in an Ecologically-Sustainable Manner

The preceding analysis of property rights suggests that conventional policy in most developed states is to maintain strong private property rights in order to encourage investment and economic growth and that limitations have historically been imposed on the exercise of these rights through planning, environmental, and natural resource management regulation. But even with sophisticated modern environmental legislation, there is usually a conceptual and legal separation between, on the one hand, the individualized ownership or property right itself, and on the other hand, the public interest focused layer of environmental protective regulation. Property rights are regarded as legally complete and enforceable in themselves, qualified only by whatever limitations may be applied externally through the operation of applicable environmental and resource management laws. If there are no such laws, or if the laws are incomplete or technically inapplicable to particular situations, then the owner is generally regarded as able to exercise his or her property rights without restraint. The *prima facie* position is that a landowner may use their land as they wish unless there is some statutory or common law restriction limiting such use.²²²

Legislation and local authority planning controls in most jurisdictions have placed increasingly stronger limits on land and water use, and on the discharges of contaminants into land, water, and the atmosphere. Severe penalties for breaches of such restrictions are becoming the norm, with high fines, strict and vicarious liability, and even imprisonment for offenders and company officers in extreme cases.²²³ Although many of these measures are relatively progressive, they are still primarily reactive impositions of liability that require positive proof of culpability against statutory standards in any particular case. They are not obligations that apply automatically as an inherent incident of ownership of land and natural resources.

An emerging alternative approach suggests that property ownership should incorporate sustainability as an inherent or fundamental responsibility of holding rights in land and natural resources. While such an approach may require a paradigm shift in current perceptions of property rights in most developed legal systems, it is not so novel in the history of human development. In extrajudicial writings, Christopher Weera-

still effectively provided for in the *Conservation Act 1987* (NZ), 1987/65, s 24 and the *Resource Management Act*, *supra* note 3, ss 229–237H.

²²² See discussion in Part III-C, above.

²²³ See e.g. *Resource Management Act*, note 3, s 338–41.

mantry, a retired judge from the International Court of Justice, points out the rich heritage of “global wisdom” (i.e., the collective traditional wisdom of ancient civilizations, Indigenous peoples, and customary principles) to inform the area of environmental protection and ecologically sustainable development.²²⁴ Such principles generally emphasize longer-term duties to the community and future generations rather than individual property-based rights when considering human interaction with the natural environment. Indeed, this approach is not incompatible with the common law tradition, as even Sir William Blackstone recognized that private property rights must sometimes be sacrificed to “public convenience” in order for scarce public resources to be rationed for the greater benefit of society.²²⁵

Other commentators have noted the need to internalize environmental values in human interactions with land and the natural environment. Aldo Leopold called for a new land ethic recognizing that humans are a part of the biotic community—not apart from it.²²⁶ More recently, Kevin Gray observed that it “no longer seems strange to speak of the responsibilities of ‘ecological citizenship.’”²²⁷ He noted that “[t]here is today a wide acceptance of a ‘new politics of obligation’—however imperfectly realized in practice—according to which ‘human beings have obligations to animals, trees, mountains, oceans, and other members of the biotic community.’”²²⁸

Gray also noted that there are sound economic arguments to recognize the vital interrelationship between environmental values and human well-being.²²⁹ From a purely pragmatic perspective, traditional cultures and societies understood the interdependence of humans with their natural environment because they were less insulated from it than modern developed societies and directly depended upon its viability for their survival.

Principles of sustainable development and management of natural resources are now widely accepted at the global level and at local levels in many jurisdictions. In some jurisdictions, sustainability is at the core of policy, planning, and decision making on the use of land, air, and wa-

²²⁴ See Judge CG Weeramantry, “Foreword: Rights, Responsibilities, and Wisdom from Global Cultural Traditions” in Grinlinton & Taylor, *supra* note 129, xv at xvi–xvii.

²²⁵ See Blackstone, *supra* note 20 at 129.

²²⁶ See Aldo Leopold, *A Sand County Almanac & Other Writings on Ecology and Conservation*, ed by Curt Meine (New York: Library of America, 2013) at 173.

²²⁷ Gray, *supra* note 129 at 63.

²²⁸ *Ibid* citing Mark J Smith, *Ecologism: Towards Ecological Citizenship* (Buckingham: Open University Press, 1998) at 99.

²²⁹ See *ibid* at 55.

ter.²³⁰ Where this is the case, to the extent that consents and planning permissions for the use of land, air, and water are property rights, sustainability considerations can be said to have been progressively integrated into both the creation and the exercise of these rights. Rights to fell and mill indigenous trees and the allocation of commercial fisheries quota are also governed by the sustainability principle in many jurisdictions.²³¹ Emissions trading units created by climate change measures are a new form of property in carbon.²³² Designed to reduce greenhouse gas emissions through economic and market forces, sustainability underlies their *raison d'être*. It is therefore possible to integrate sustainability into the process of creating and managing property rights in natural resources through regulation. But even this falls short of an *inherent* obligation of sustainability *embedded* in property rights in land and natural resources.

Establishing the principle of sustainability as an inherent non-derogable normative incident of property ownership may not be achieved simply by legislative intervention. It will also require judicial support to develop the common law in this direction. This development can be justified by applying existing legal principles. One such principle is that courts may be guided by international law and normative principles where there is some ambiguity in domestic regulation, where there is some dispute over the exercise of a statutory discretion, or where a balancing of private rights and community interests is required in any particular case.²³³ As the principle of sustainability is now an internationally accepted normative principle—and may even be approaching the status of customary international law—it may inform and guide the decisions of domestic courts. But this is not the only avenue open to the courts. One of the central ad-

²³⁰ See e.g. *Resource Management Act*, *supra* note 3, s 5.

²³¹ See e.g. *Forests Act* (NZ), *supra* note 138, s 67AB–67B. See also *Forests Amendment Act 1993* (NZ), 1993/7, s 2(1), *sub verbo* “sustainable forest management”; *Fisheries Act* (NZ), *supra* note 136, s 8.

²³² See *Climate Change Response Act 2002* (NZ), 2002/40, s 18(3), as amended by the *Climate Change Response Amendment Act*, *supra* note 182.

²³³ See e.g. *Minister of State for Immigration and Ethnic Affairs v Teoh*, [1995] HCA 20 at para 26, 183 CLR 273; *Mabo*, *supra* note 184 at 42; *Tavita v Minister of Immigration*, [1994] 2 NZLR 257 at 266, 101 ILR 455(CA); *Sellers v Maritime Safety Inspector*, [1999] 2 NZLR 44 at 57–58 (CA). See also “Bangalore Principles” in *Developing Human Rights Jurisprudence: The Domestic Application of International Human Rights Norms, Judicial Colloquium in Bangalore, 24–26 February 1988* (London: Commonwealth Secretariat, 1988), ix; The Hon Justice Michael Kirby, “The Road From Bangalore: The First Ten Years of the *Bangalore Principles* on the Domestic Application of International Human Rights Norms” (Speech delivered at the Conference on the 10th Anniversary of the Bangalore Principles, Taj West End Hotel, Bangalore, India, 28 December 1998), online: High Court of Australia <www.hcourt.gov.au/assets/publications/speeches/former-justices/kirbyj/kirbyj_bang11.htm> .

vantages of the common law is its adaptability to change. Early jurists and scholars, such as Justice Oliver Wendell Holmes, Roscoe Pound, and Justice Benjamin Cardozo, recognized that the common law is dynamic and should accommodate legal changes introduced through legislation and changes in public policy.²³⁴ As Alexandra Klass notes, “a rich tradition of legal theory supports the idea that statutes should inform common law.”²³⁵ She refers to Holmes’ view that “the growth of law is primarily legislative in nature and draws from all aspects of life and the community.”²³⁶ Pound also argued the common law was necessary “to fill the gaps in legislation, to develop the principles introduced by legislation, and to interpret them.”²³⁷ He considered it was legitimate to incorporate legislative change and changing social ideals into the body of the common law.²³⁸ James McCauley Landis echoed similar views, with Cardozo going even further by suggesting that judges should not wait for the legislature to act, but should abandon rules of the common law that are no longer appropriate or relevant to modern conditions.²³⁹ The relevance of these theoretical approaches to the development of environmental law is summarized by Klass:

The legal theorists discussed ... while certainly not of one mind on many issues, all saw common law as a vehicle for dynamic legal change that fully encompassed statutory law, data, and public policy as it developed through time. In other words, the growth of the regulatory state should complement, not displace, common law. ... [T]his dynamic use of common law has been underutilized in environmental protection. ... Even though environmental law is a relatively new field, the standards, data, and policy in environmental statutes and regulations should play a significant role in the development of common law.²⁴⁰

This analysis of the common law suggests that the judiciary, in appropriate cases, should incorporate principles of ecologically sustainable development that are now prevalent in international law, domestic legislation, and government policy into the application of the common law. In terms of interpreting and enforcing property rights, this integration could include implying an inherent obligation of ecologically-sustainable use

²³⁴ The views of these jurists are well summarized in Klass, *supra* note 32 at 548–57.

²³⁵ *Ibid* at 549.

²³⁶ *Ibid*.

²³⁷ *Ibid* at 552 citing Roscoe Pound, *The Spirit of the Common Law* (Boston: Marshall Jones, 1921) at 174.

²³⁸ See Klass, *supra*, note 32 at 552.

²³⁹ See Klass’ analysis of the views of Landis, Cardozo, and other more recent jurists and theorists (*ibid* at 552–56).

²⁴⁰ *Ibid* at 556–57.

and management to the exercise of property rights in land and natural resources. Counter-arguments to such a reconceptualization of private property rights include the possibility of uncertainty and increased transaction costs. The concern with uncertainty may be met by the point that property rights are not, and never have been, absolute. Under the common law, the ultimate landlord is the Crown or the state (depending upon the political system), and private property rights may be taken for the greater public good by the state at any time—usually with some form of compensation. The implication of an inherent obligation of ecologically-sustainable management into property ownership is, at one level, simply a recognition that a landowner holds land of the Crown (or State), and has an obligation to use it sustainably for the long-term interest of society, of which the state is the ultimate representative. There are strong parallels here to the doctrine of waste in leases. Increased transaction costs may arise in terms of ongoing management of the ecological health of the land and resources thereof, but again this point may be met by the same argument. Further, ecologically-sustainable development will involve cost to society and to individuals. This cost should be balanced against the longer-term costs that will accrue in the absence of such measures. One may also reverse these arguments by recognizing that landowners who have not used their land and natural resources sustainably in the past have been unfairly subsidized by society at large which carries the long-term costs of environmental degradation and depletion.

Conclusion

This article has reviewed the history, current role, and future potential of common law property rights and remedies in addressing environmental challenges. The central theme of the paper is that such concepts are often overlooked in an era of proliferating environmental regulation of the environment and natural resources. When applied imaginatively and innovatively, however, they provide a versatility and adaptability in resolving environmental conflicts and furthering environmental objectives (such as ecologically-sustainable development) that regulation alone does not.

Common law rights and remedies are generally not excluded by environmental and planning regulation, even where there is statutory authorization of harmful activities. They provide supplementary avenues for individual redress, and for matters of broader public interest. They can provide remedies and potential solutions in cases where legislation does not apply, supplementary and parallel legal avenues where it does, and assistance with the interpretation and application of regulatory measures which often reflect common law principles.

The many challenges in utilizing common law rights and remedies, particularly through litigation, are discussed. These include issues of justiciability, standing, costs, and evidence. Solutions to many of these problems have been developed by the courts, including putting to one side questions of standing where there is a clearly justiciable matter of private right or public interest that is appropriate to be heard in a judicial forum, and waiving costs awards and declining applications for security for costs in cases where matters of genuine public interest are being determined. The use of class actions provides a further avenue to facilitate litigation and resolution of important environmental and resource development issues.

The article examined in detail the creation of property rights and interests (and limitations on the exercise of property rights) through contract and the supportive function of the law of torts for breach of those rights and interests. Private property rights are created either by original crown or state grant, or by further dealings with, and subdivision of, existing private property. Contractual arrangements can provide great versatility and allow creativity in the holding, exercise, and limitation of property rights to avoid environmental harm and encourage ecologically-sustainable outcomes. Examples include the use of conservation easements and covenants to limit uses, provide appropriate access, and achieve conservation aims. Conservation covenants are an increasingly popular approach to protecting ecologically-sensitive and wilderness areas.

Once property rights are created, they assume independent existence attracting certain incidents of property ownership, including the right to support, riparian rights, development rights, and protection through various tortious remedies such as trespass, nuisance, waste, and strict liability. The latter are particularly useful in addressing externally originating threats to one's property, and constraining use of property that causes damage to neighbouring property or to individuals. The article has also explored the adaptability of trespass, nuisance, negligence, and strict liability, as well as their supportive function to property rights, including their potential to address modern environmental challenges such as hazardous airborne or water-borne toxic substances and waste, electromagnetic and radioactive emissions, the effects of subterranean mining processes such as drilling and "fracking," and the spread of alien species and genetically-modified organisms. The categories of property-related torts are certainly not closed and there is potential for further development of novel torts where environmental harm is caused to others.

Property rights can also provide versatile and creative solutions to some of the resource scarcity and environmental degradation problems that we face. Further developments of tradeable rights in resources—such as quota management schemes for fisheries, and emissions trading

schemes for carbon—may be expected, particularly in relation to water, geothermal, and similar renewable energy resources. Economic mechanisms such as feed-in tariffs provide great potential to encourage the development of renewable energy and sustainable approaches to environmental management. The management of Indigenous claims to land and resources is another area where innovative quasi-property rights are being developed. Further, with the information technology now available, more sophisticated property and resource data and registration systems can be developed. These systems allow immediate access to current data and offer effective solutions for reducing conflict and disputes over access to land and use of natural resources.

Property rights-based systems must also become more sensitive and responsive to the impacts of the exercise of land and resource rights. Such rights can not only accommodate, but also advance, the principles of ecological protection and sustainable development. While environmental and planning regulatory regimes are beginning to incorporate sustainability to a greater or lesser extent, systems of allocation and management can accommodate a broader range of values beyond those that can be reduced to a conventional economic utility value. Many critical elements of the biosphere and ecological health are not amenable to quantifiable and market-based economic accounting. Such values will continue to require ongoing government oversight and intervention to ensure that ecological sustainability and intergenerational equity are incorporated in the exercise of property rights.

This article argues that the principle of ecologically-sustainable use and management of land and resources should be accepted as an inherent and universal obligation of property ownership and incorporated into law, policy, and judicial decision making to mitigate the impact on ecological values of the exercise of property rights. This area requires further research and analysis, as well as a reconceptualization of the nature and ambit of property rights under the common law. Such a reconceptualization is argued to be an entirely appropriate and legitimate exercise of the common law method.

Finally, the role of the common law, and specifically property rights and remedies, in addressing environmental challenges, has limitations. While common law rights and remedies have a flexibility and adaptability that regulation does not, the best approach to effective environmental protection and furthering ecologically-sustainable development is through a combination of smart regulation, effective and responsive public policy, and strong property rights protected by courts that apply and develop the common law to reflect changing circumstances.
