

MANAGING RIGHTS, RESTRICTIONS AND RESPONSIBILITIES AFFECTING LAND

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Abstract

The post WWII sustainability movement has seen the creation of many new legislated property rights, restrictions and responsibilities (RRRs). While these new interests are important, poor legislative and administrative design has resulted in a good deal of community confusion and unfair penalties for individuals. To date, the land administration literature has concentrated on defining the problem and discussing the merits of various administrative reform proposals. Building on this earlier research, this article proposes that the key problem for governments has been the lack of an underlying theoretical framework on which to base policy, legal and administrative solutions. In response, this paper introduces the *property object*, a tool for describing, comparing and classifying RRRs using five key attributes: the objective, action regulated, spatial coverage, duration and people impacted. An analysis of federal, state and local legislative regimes was undertaken and the results used to develop the concept. The utility of the concept is demonstrated through the ability to use it for assessing the importance of different RRRs and to identify why some RRRs fail in practice. The concept is not intended to be a panacea for all problems relating to RRRs, rather, it is meant to be a starting point for understanding the existing problems and designing future administrative systems.

Keywords: property rights, property object, land administration, land registry

Introduction

Over the last 50 years significant debate has occurred over how we should best preserve, develop, allocate and use our land and natural resources. Governments have increasingly turned to using legal rules known as property rights, restrictions and responsibilities (RRRs) to change the way people relate to land. These rules control the diverse land related activities we undertake: ranging from the alienation of land for use as national parks, the unbundling of water and timber rights from private land, the reallocation of land rights to indigenous people, down to the prescription of nude bathing areas and allocated parking spots.

While many of these new RRRs have been necessary, an analysis of the land administration literature (Lyons et al, 2002 and 2004; Kaufman and Steudler, 1998; Ting and Williamson, 1998 and 1999; Ting 2002) and of existing land administration systems reveals three main problems have arisen through their creation: First, *some RRRs have been poorly designed in legislation*. They may be unenforceable by authorities or may provide little incentive for those who are supposed to adhere to them. Second, *some RRRs are poorly administered*. The administration system may offer only limited public information access, have slow permit and licence processing times, or might be administered in complete isolation to other related RRRs. Finally, *some RRRs do not exist where they ought to*. That is, legislation has not yet been written to control certain land based activities. For example, there are minimal controls preventing people from building on contaminated land or creating subdivisions where land locked parcels would result.

The land administration literature has generally focused on solving the second problem, the poorly administered RRRs. The central argument has been whether the existing property rights administrative regime, the Torrens system, should be extended to manage all new RRRs or whether this registry should be kept separate, acting as one small part of a much larger integrated, whole-of-government land information system. This debate has provided an important first step in creating discourse and raising awareness of the problem; however, by focussing solely on the land information management issues we have tended to ignore the larger land management issue embodied in problems one and three- the poorly designed RRRs and the RRRs that do not exist where they ought to.

In this paper it is suggested that all three problems arose from the one root cause: the lack of a holistic and coherent land policy and administrative framework. Many new RRRs were created without a theoretical framework or integrated administration systems. Therefore, it is proposed that in order to solve all three problems and achieve the initial objective of sustainability, we must first create a theoretical framework for understanding, discussing and comparing RRRs.

In this paper we introduce the *property object* as the first part of this theoretical framework. The concept is an extension of the *legal land object* introduced in Kaufman and Steudler’s (1998) visionary document, Cadastre 2014. The term *legal land object* was used to refer to all private and public rights, restrictions and responsibilities. The *property object* goes further, providing five attributes by which to describe every RRR in depth. First, the methodology used to develop the framework is discussed followed by an introduction of the five key attributes that make up an individual property object. To demonstrate the value of the concept, a number of examples are then considered.

Materials and Methods

Quantitative analysis was used to develop the *property object*. Analysis was conducted at three levels of government; the Australian Government (Federal), the Victorian Government (State) and Moreland City Council (Local). These authorities represent the three levels of government in Australia. All three create and manage various RRRs. The statute books of each jurisdiction were analyzed with the view to identifying every piece of legislation that placed a control over land. This process would reveal not only the quantity of RRRs, but the differences and similarities in their natures.

The statute books for each jurisdiction were accessed online (Victorian Government, 2006; Australasian Legal Information Institute, 2006; Moreland City Council, 2006). As legislation is always being updated a ‘snap-shot’ date was chosen for each statute book. A two stage process was undertaken for each jurisdiction. First, a preliminary inspection of each statute was conducted in alphabetical order, section by section, in order to determine whether an RRR existed within the legislation. This method had to be used as keyword searching was found to be unreliable: different Acts use vastly different terminology and language when referring to similar phenomena. In total there was found to be 514 (out of 1427) Acts at federal level, 620 Acts (out of 1045) at the State level and 11 by-laws at the local level. The second stage focused on the statutes where RRRs had been found to exist. For each RRR, the details in Table 1 were recorded in a Microsoft Access database. This phase required more than legislative analysis: government websites and other documentation were consulted. A defined set of possible values for each criteria ensured that comparative analysis could be undertaken. Finally, further analysis was conducted into non-legislated RRRs such as those listed in Body Corporate arrangements, privately listed agreements, and those which are implied but not legislated.

Table 1. The data recorded on each RRR

Category	Criteria	Possible Values
Policy Level	Legislative Origins	National, State, Local, Body Corporate, Unlisted
	Type of Legislation	Proscriptive, Descriptive
	Period of Creation	1950 → 2000
	Driver for Creation	Government, Public Driven
	Type of Land Affected	Urban, Rural, Marine Environment, Commercial, Residential, Ind, Agr
	Type of Interest Created	Right, Liberty, Power or Immunity (Cole and Grossman, 2002)
Management Level	Type of Administration Body	Minister, Government Department, Local Council, Statutory Authority
	Private Sector Involvement	Public Private Partnership, None
Operational Level	Allocation Method	Systematic, Sporadic
	Registration Method	Single Register, Multiple Registers, Negative Register, No Register, Torrens, Deeds
	Update Method	On request, None
	Removal Method	Time Based, Request Based, None
	Level of ICT	Automated Online, Automated Onsite, Paper Based
Public Access Method	Price to access	Transaction Fee vs. Cost Recovery vs. Nothing
	Access Point	Automated Online, Automated Onsite, Onsite, Unavailable
	Altering Information	Online, Onsite, Unavailable
Impact on Rights System	Tenures Affected	Private vs. Public vs. Communal vs. Open Access
	Relationship to the Cadastral Map	Parcel Based, Non-Parcel Based
	Relationship to Land Registry	Recorded in Registry, Link to Registry using ID, No Relationship
Spatial Elements	Spatial Unit	Parcel (Polygon), Network, Points, Lines, None
	Identifier	Parcel ID, Property ID, Council Number,
	Mapping Status	Complete Automated Online Map, Incomplete Automated Online Map, Automated offline Map, Paper Based Map, None

Results - The property object concept

The analysis demonstrated that every RRR is different in nature and depending on what perspective is taken; different classification schemes will be valid. From a land administrative and information management viewpoint the five attributes in Figure 1 are found to be of the most importance: objective, action, spatial extent, duration and people impacted. These five attributes tell us what information must be recorded and made available when an RRR is created. Considered together they can go a long way to determining what type of administrative approach would be most appropriate. Each of the attributes is now considered in more depth.

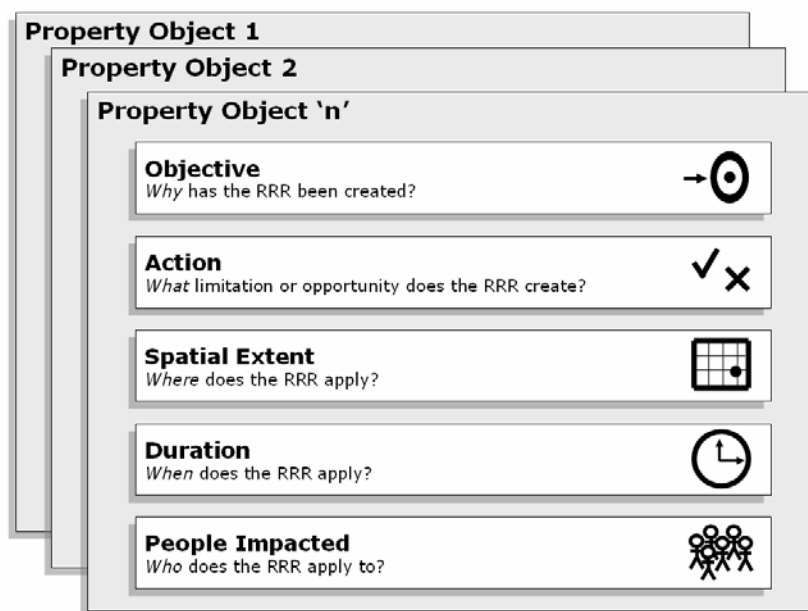


Figure 1. The five attributes of a property object

Objective

The *objective* attribute describes the reason(s) for enacting the RRR in legislation or contract. Different objectives may prompt the creation of particular RRRs. Government policy drivers and personal objectives will change over time: Table 2 (see below) outlines the key objectives behind RRRs, in no particular order. RRRs with similar objectives often need to be managed together in a portfolio arrangement: historically, the failure to do this prompted confusion and information voids for citizens and government agencies.

Table 2. The objectives driving the creation of property objects/ RRRs

Options	Description
Environmental conservation	RRRs created with the intention of conserving, protecting and regenerating the flora and fauna of the natural environment. <i>Example: Tree clearing restrictions</i>
Social conservation and equity	RRRs created with the intention of protecting cultural landmarks and ensuring fair access to land, natural resources and housing. <i>Example: Native title land rights</i>
Economic growth and savings	RRRs created with the intention of using land and natural resources for the generation of wealth at individual and wider community levels. <i>Example: Land tax responsibilities</i>
Tenure organization and legal procedure requirements	RRRs that manage the creation, variation and removal of the different public and private tenures that exist over land, natural resources and the built environment. <i>Example: Compulsory acquisition of land</i>
Industry management	RRRs that manage the land and non-land based activities of different industries. <i>Example: Gambling outlet and liquor retail restrictions</i>
Public safety and order	RRRs that control public behaviors and promote safety within the community on land. <i>Example: Liquor and tobacco consumption restrictions</i>

Action Regulated

The *Action* attribute refers to the particular activities that an RRR can regulate, with regard to land and natural resources. Schlager and Ostrom (1992) provide a framework for differentiating between the types of actions (Table 3). RRR statutes may define a number of these authorised actions. The attributes are listed in order from the least authority (Access) to the greatest authority (Alienate). The higher forms of authority are of greater economic value and usually demand more extensive forms of administration and management.

Table 3. The actions regulated by property objects /RRRs

Options	Description
Access	The ability to enter a defined physical area and enjoy non-subtractive benefits. <i>Example: Authorized officers entering lands for purposes of inspection and works e.g. surveyors, police officers etc.</i>
Management	Transformation (changing the resource): The ability to transform the resource by making improvements. <i>Example: Limitation on excavation on areas of land found to have cultural importance</i>
	Usage (merely undertaking an activity on the resource): The ability to regulate use patterns that occur on the resource. <i>Example: Building regulations that dictate standards for the construction of dwellings</i>
Withdrawal	The ability to obtain resource units or products from the resource. <i>Example: Licences allowing harvesting of fish from waterways</i>
Exclusion	The ability to determine who will have access rights and withdrawal rights, and how those rights may be transferred. <i>Example: A 5 year site lease for a retailer</i>
Alienation	The ability to sell, lease or mortgage management and exclusion rights. <i>Example: Ownership of property by private citizen, government or community</i>

Adapted from Schlager and Ostrom 1992

Spatial Extent

Spatial extent refers to the geographic area over which the RRR applies. All property objects can be divided into parcel and non-parcel (Table 4). A parcel is the smallest unit of land ownership and the basic building block of the cadastre. Most RRRs are parcel based, however, RRRs that are non-parcel in nature are being increasingly used (Figure 2). This trend reflects the shift from formal jurisdiction and parcel polygons to regional management which incorporates environmental features.

Whatever definition of area is adopted, spatial extent is a vital attribute. GPS now provides for a definition and location of spatial extent which is much faster, cheaper and more accurate than its predecessors. Other new spatial technologies, such as next generation GIS, spatially enabled databases and web mapping services, allow information to be organized using geographic coordinates: different datasets can be grouped according to location. This allows us to combine and view RRRs and has diminished the need to attach every RRR to a parcel. These advances present as yet unrealized opportunities to administer RRR information.

Table 4. The spatial extent of RRRs/ property objects

Options	Description	
Parcel	Specific	RRRs that apply to a specific parcel or small number of parcels located within a small geographic area. <i>Example: Footscray Land Act</i>
	Patchwork	RRRs that may/may not apply to a given parcel or RRRs applied to every parcel within a jurisdiction applied differently in each case. <i>Example: Heritage restriction</i>
	Blanket	RRRs that apply to all parcels uniformly across the whole jurisdiction. <i>Example: Provisions relating to the construction of fences between properties</i>
Non-parcel	Point/Object	RRRs that apply to non-real property or specific points rather than a parcel. <i>Example: Aboriginal relic and sacred site protection schemes</i>
	Network	RRRs that apply to infrastructure networks rather than the parcels they overlay. <i>Example: Electrical and gas pipeline restrictions</i>
	Polygon	RRRs that apply to natural boundaries or administrative boundaries other than ownership parcels. <i>Example: Marine waterway management provisions</i>
	Dynamic	RRRs that apply to different areas over time. <i>Example: Fisheries defined by position of stocks</i>

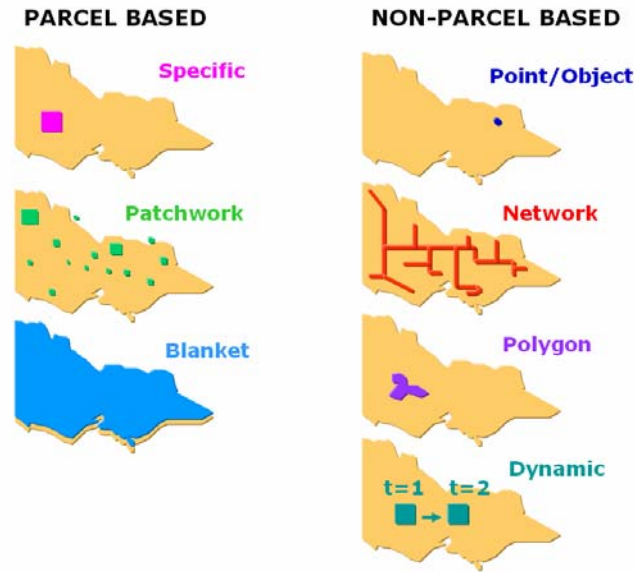


Figure 2. The different spatial extents of RRRs/property objects

4. Duration

Duration refers to the period of time over which the RRR applies (Table 5, Figure 3). Legislation tends not to define duration, with the effect that many RRRs remain applicable long after they can be justified. For example, during WWII in metropolitan Melbourne, rent controls were placed on dwellings to keep housing affordable. Instances of this RRR remain even 50 years after the cessation of hostilities, keeping rent well below market levels (*Residential Tenancies Act 1997* (Vic), Section 14). Other RRRs remain on the public record despite being unnecessary. Orders registered on a title for breach of human habitation and planning standards (*Planning and Environment Act 1987*, (Vic), Section 173) are sometimes not removed when the property is altered.

Table 5. The duration of RRRs/ property objects

Options	Description
Once/ short term/ set period	RRRs that are applied only once usually for a specific purpose. <i>Example: Transfer of public utility assets to private companies</i>
Repeat	RRRs that apply for a specific period at the same time every year or cycle. <i>Example: Land tax and utility service bills</i>
Ad-hoc	RRRs that can begin and end at any time desired by the participating parties. <i>Example: Land management agreements between private citizens and government</i>
Indefinite	RRRs established without a sunset clause. <i>Example: Terrorism and anti nuclear activity restrictions</i>

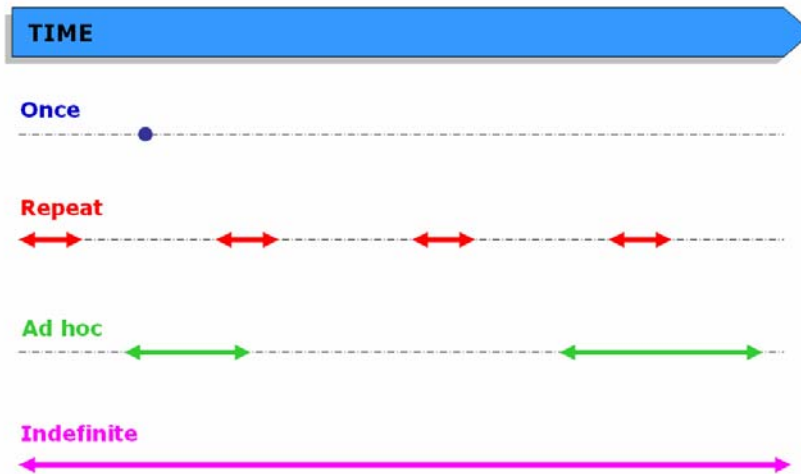


Figure 3. The duration of RRRs/ property objects

People Impacted

People impacted denotes the group of people affected by the RRR. Tenure theory provides four main typologies- Private, Public, Common and Open Space (Prosterman, 2002) (Table 6). As RRRs are primarily about regulating human behaviour with respect to land, knowing to whom an RRR applies is very important. Each RRR involves two groups: one benefiting from the RRR and the other bound by it. For example, a restriction on clearing vegetation from private land benefits the whole community while limiting the actions of the owner. If the owner is compensated, he or she benefits at the expense of the community. RRRs can exist between two people in the same tenure typology: for example, private easements may be created between two private land owners. Government departments may require identified statutory authorities to maintain land and roads.

Legislation in Victoria broadly defines the people impacted; however, in practice, the systems for tracking and identifying individuals are poor. For example, a government decision to collect taxes on land held in trust or to charge a capital gains tax will have problematic and uneven application because there is no centralised information infrastructure that links people, transactions and parcels.

Table 6. The people impacted by RRRs/ property objects

Options	Description
Private	RRRs that apply to privately owned property and other subclasses of private property such as leased land, mortgaged land and land held in trusts. <i>Example: Taxation of private land by the government.</i>
Public/Government	RRRs that apply to public lands including land held by statutory authorities, government departments, local councils and other non-private bodies. <i>Example: Creation of national parks for the benefit of community</i>
Communal	RRRs that apply only to communal lands. If they exist and are formalized. <i>Example: Native title restrictions on use and management</i>
All	RRRs that apply to all tenures and inhabitants Acquisition power over any parcel of land by the government
Open Space/other jurisdiction	RRRs that apply to unclaimed land, open space or another jurisdiction. By definition no RRRs can be readily enforced in such areas. <i>Example: N/A</i>

Discussion - Making use of the property object concept

Having introduced the five key attributes of a property object, the paper focuses on how the concept can be used to assist and improve the management of RRRs. Four examples are used to demonstrate the utility of the concept.

Identifying the less important RRRs

Land administration literature has suggested that all RRRs be managed in a single centralized system, perhaps the existing registry. In the case of Victoria, this would mean placing the administration of 620 Acts into one department. Clearly this idea would be unworkable and create massive information management issues. This is not to say the registry should not handle some of the RRRs. It is a highly efficient tool for managing important interests, interests that need to be secured by government. The question is then: which RRRs ought to be managed within the registry and which ought not? The property object concept can assist in making these determinations. The ownership rights that are currently managed by the registry have the characteristics in Table 7.

Table 7. Characteristics of ownership rights vs. less important interests

Property Object Attribute	Ownership rights	Less important interests
<i>Objective</i>	Economic growth	Varied objectives
<i>Action Regulated</i>	Alienate	Access
<i>Spatial Extent</i>	Patchwork	Blanket/ Specific
<i>Duration</i>	Ad hoc	Once/ Short term
<i>People</i>	Private	All

So the main business of the registry is to deal with interests that are marketable, dynamic, easily defined spatially and that can be held by private people. The unbundling of natural resources from land will result in many interests with these characteristics being created. It would be wise for registries to take an active role in securing and administering these new commodities. Sustainability demands that land and natural resources are managed holistically and the registry represents the best available tool for integrating the administration of these most important property interests.

Other non-marketable, less dynamic interests do not require as extensive or secure administration. A cadastral surveyor’s right to enter private is a good example; the guarantee and security of the land registry are simply not required. Why is this case though? Because the attributes listed in the third column of Table 7 are simply less important. That is, they are either highly specific, extremely broad, have less value/power attached to them and are therefore are generally of less interest to citizens. Using this criterion we can *identify* 500 of the 620 of the Victorian Acts as being of less importance. Of the remaining 120, only 66 would have the characteristics that would see them equate to the importance of the ownership rights managed in the registry (Figure 4). The administrative problem for the registry suddenly appears much more manageable.

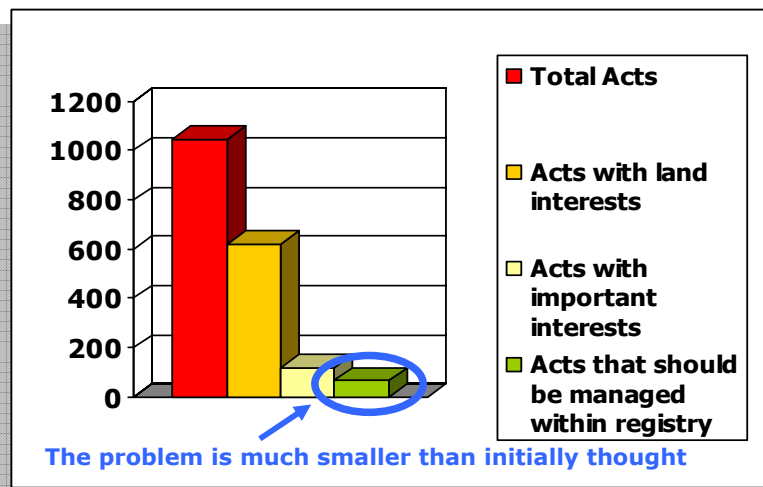



Figure 4. Identifying the most important RRRs

Identifying poorly designed RRRs

Previously, poor design was mentioned as one of the three main problems relating to RRRs. The *property object* concept can shed light on why some designs do not result in the desired human behaviors. Moreland City Council is a local government municipality just north of the central business district. The old suburb of Brunswick lies within the municipality and includes old derelict buildings which are no longer in use and in a state of disrepair. Developers often sit on these properties, ‘land-banking’ them, waiting for an opportunity to redevelop or sell them during economic up-turns (Lucas, 2006). For the purposes of public safety a by-law exists (*Private Land Local Legislation*, Moreland, Section 9.1) which states that all buildings on privately held land must be safe and secure at all times, otherwise fines can be applied to individual parcels/properties (Table 8). Property owners who have been served with these fines have begun to ignore them. While they still pay their rates, they do not respond to the enforcement notice; most probably because it is seen as cheaper to ignore it. An enforcement problem exists with this RRR and the initial policy objective of community safety is clearly not being met. A system of enforcement needs to be designed to enable land clearance of the offending parcels by the authority at the expense of the owner (Table 8). Moreland City Council is looking at increasing rates on the properties for the owners who do not clean up (Kelly, 2006) (Table 8). Regardless of the chosen remedy, this example demonstrates the usefulness of the property object concept for understanding why designs have failed and produced undesirable human behaviours. Furthermore, the concept can help in guiding discussions of possible solutions.

Table 8. Comparing different RRR designs

Attribute	The existing RRR (s 9.1)	An alternative RRR1	An alternative RRR2
Objective	Public Safety	Public Safety	Public Safety
Action	Management: all buildings must be safe and secure otherwise a penalty can be applied to the parcel	Management: authorities may clear buildings at the expense of owner if they’re not safe and secure	Withdrawal: council rates may be increased up to 5 times if land and buildings are not safe and secure
Spatial Extent	Blanket: applies to all parcels	Blanket: applies to all parcels	Blanket: applies to all parcels
Duration	Indefinite: applies at all times	Indefinite: applies at all times	Repeat: applies every year
People	Private: applies to all private land	Private: applies to all private land	Private: applies to the rate payer

 = proposed changes in RRR design

Allowing for more advanced searching of RRR information

Finding out where RRRs apply, to whom they apply, when they apply, why they exist and how they can be changed is of significant interest to citizens. Our systems for delivering this information have, until now, have been very poor. New SDI initiatives are looking at using a common IT infrastructure across government to integrate RRR datasets virtually using the spatial attribute; a web client will be used by citizens to access this database of RRR information. Western Australia’s whole-of-government Shared Land Information Platform (SLIP) and web service known as Register of Interests (ROI) provides an example of this type of arrangement.

In Victoria, creating such an architecture would result in 620 Acts and countless other datasets being integrated and made available to the public over the internet. While this would cut much of the search time currently required when looking for RRR information, the problem of determining which RRRs are required for a particular citizen or activity would still remain. Western Australia’s ROI prototype offers RRR searching using parcel identifiers and by common activities such as property development. The property object concept can advance these search typologies even further.

If the property object attribute values of each RRR were to be recorded in a uniform fashion by government agencies, advanced searches could be conducted using a range of different user inputs. Figure 5 provides an example. This advanced search would allow citizens to search based on the information they had access to, be it person information, location information, activities of interest or individual Acts. The search result would produce a list of RRRs that are deemed relevant to the query. The more attribute fields that are filled in, the more specific the returned information. The search may also reduce the need to classify RRRs, as citizens could filter their searches for particular occasions; however, an overall importance classification as discussed earlier could be included.

Figure 5. Using the property object’s attributes to search for RRRs

Identifying which RRRs should be managed together

We have argued all RRRs need not be managed by a single agency: in most cases only the information need be integrated and this can be achieved using the SDI concept (Williamson et al, 2003). However, we also argue that in cases where RRR attribute values are very similar, ideally they should be administered by a single organization. The management of water entitlements in Victoria over the last 10 years demonstrates why integrated information management is so important. Under Victoria’s *Water Act 1989* property owners with bulk water entitlements were able to transfer the rights to other parties. Farmers could effectively retire their farms from production for the greater good of environmental sustainability. The transferred rights had no duration restrictions and would exist for an indefinite period, be linked to a parcel/property and involve two private parties (Table 9).

Table 9. RRRs with similar characteristics, but, managed independently

Property Object Attribute	Water rights	Mortgage
Objective	Economic / Environmental	Economic
Action	Alienate: owner may separate water from the land and sell it	Alienate: banks may sell land if capital is not repaid by mortgagor
Spatial Extent	Parcel: the rights are linked to parcels	Parcel: the right is linked to a parcel
Duration	Indefinite	Indefinite
People	Private parties	Private parties

Problems arose because a number of the key property object attributes were not well considered or managed. Many struggling farmers with failing farms chose to sell their water rights to other parties. Many of these same farmers also had mortgages, another form of property object, over their properties (Table 9). Mortgages were managed independently to water entitlements. If the land was about to be repossessed by the bank, the bank could not prevent separate sale of the water right. Consequently banks and new land owners lost value on their asset through no fault of their own: the administrative regimes were inadequate. The property object attributes of land and water ownership are similar, therefore, an ideal administrative regime would manage the two resource and their respective information sets together in a portfolio arrangement (Figure 6).

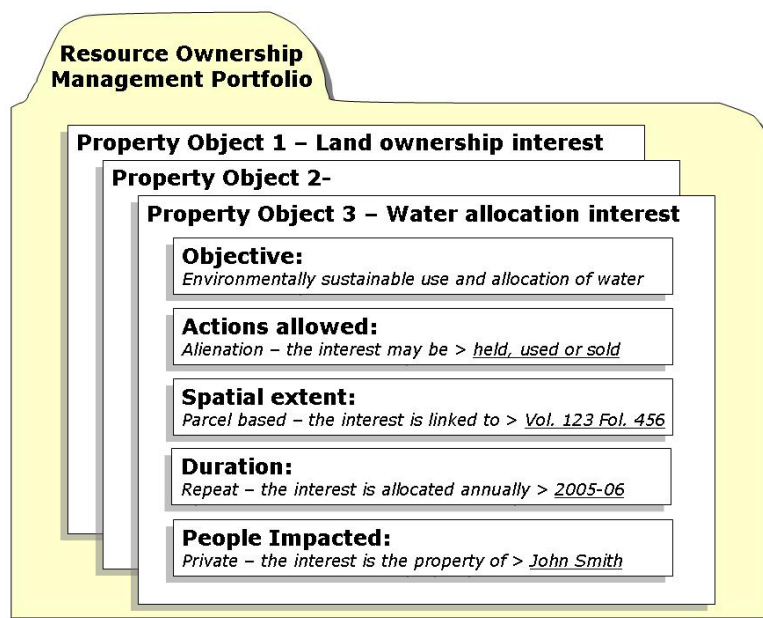


Figure 6. A portfolio management of RRRs

The four examples above demonstrate the usefulness of the property object concept. It provides a framework for discussing the existing problems of design and administration. Individual RRRs can be considered and compared holistically with all other RRRs. The framework offers a tool for conceptualising solutions to the problems as demonstrated in *identification* and *search* examples.

Conclusion

In this paper we demonstrated how the rapid increase in RRR legislation created information access and enforcement problems. The legislative regime has still not substantially achieved the original objective of sustainability. It was proposed that in order to begin to solve these problems a new framework for understanding and designing RRRs was needed. The *property object*, consisting of five key attributes, was introduced as a tool for understanding RRRs both individually and holistically. The utility of the concept was demonstrated by applying it to four current issues related to RRRs: determining RRR importance, searching RRR information, understanding why certain RRRs fail and analyzing which RRRs should be managed by a single organization. Further work should focus on developing different classifications of RRRs using the framework. The usefulness of the concept to the user sector also needs to be tested further. Finally, the concept is not a panacea for all problems relating to RRRs, nor is it meant to be. It is merely a first step in understanding and redesigning our existing land administrative systems so they are better able to meet the demands of sustainable development.

Acknowledgement

We wish to gratefully acknowledge the assistance of my colleagues in the Centre for SDI and Land Administration, Department of Geomatics, University of Melbourne in the preparation of the article. I also wish to acknowledge the Department of Education, Sciences and Training (DEST), for their assistance through the *Backing Australia's Ability* and *Science Linkages* Programs. We also wish to acknowledge the Department of Sustainability and Environment, Victorian Government for their support of the Centre for SDI and LA. We also wish to thank PSMA, Government of NSW, Government of WA and Moreland City Council for their guidance and assistance with data collection.

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