

Property Rights in Water

A Review of Stakeholders' Understanding and Behaviour

**Report Prepared for MAF Policy
and Ministry for the Environment**

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Executive Summary

1. Property rights have been broadly defined as the social pattern of rights and duties established through custom, convention and law. In this study, the term “property right” is used in its broader social and economic context, rather than as a pure legal term conferring ownership.
2. *The key issue with a property rights framework is that it is not the property which is owned, it is the rights to use the property which is owned.* The nature of the rights affects the behaviour of people managing and using a resource that we have to the property define the way that we use it. Importantly because property rights distinguish the rights of an individual from the rest of society, they have scarcity and therefore value. Rights are typically defined and enforced by the State, and in the case of water we are interested in the set of private property rights which have been created in public property (the water resource) through a resource consent.
3. Property rights are an integral element in the management and use of resources. The government’s Sustainable Development Programme of Action has identified problems with how water is allocated and used in New Zealand and it may be that these problems are related to the way in which property rights are held in water. This study was commissioned as part of that programme to address the practice and perceptions of property rights in water.
4. The six characteristics of the property rights used as a framework in this study were:

Table 1: Characteristics of property rights

Characteristic	Definition	Comment
Flexibility	The extent to which the owner can change the mode or purpose of resource use without forfeiting the right	Examples such as tying consents to application rates and land use constrain flexibility
Divisibility	The ability to create joint ownership, to divide the asset spatially or by function, to construct temporal succession of rights	Community schemes typically operate under a divisible consent.
Quality of title	Enforceability, certainty, security, ease of establishing ownership	Defines how secure the property holder can feel that the specified property will continue to be available in the future. Issues such as changes in the resource and pressures from other stakeholders affect the security that consent holders feel in the quality of their title
Exclusivity	Specificity, excludability, how many other parties to agree with on use	Unauthorised takes and other consent holders exceeding their consent conditions
Duration	Permanence, length and arrangements for renewal	Length of consent and potential for renewal
Transferability	Assignability, exchangeability, tradability	While consents are typically traded with the land, can it be transferred separately from the land?

5. The study involved four focus group meetings and 6 individual interviews. Three focus group meetings were undertaken with irrigators and a further meeting was held with public/non extractive users. The irrigation groups were configured to cover surface, stored and groundwater, with meetings in Canterbury (Dunsandel/Te Pirita groundwater primarily with some surface water), Tasman (groundwater primarily with some surface in the Motueka valley), and Marlborough (Awatere valley - surface and stored water). The domestic, industrial and hydro viewpoints were covered by individual interviews. The focus group meetings and interviews aimed to identify the beliefs of the groups about the nature of their property rights; and identify the way in which those beliefs affect behaviour in relation to the resource. The scope of this report does not specifically examine the perceptions of Maori in relation to water allocation and use, or address whether those perceptions would raise any further issues. An additional process is required to specifically investigate these issues.
6. The study did not develop a detailed understanding of the behavioural implications of the participants' beliefs, and used a relatively small sample. The report and its conclusions should therefore be read with some caution. However it has generated useful understanding of how property rights are working in water consents. The key findings are:
 - We do not believe there is a significant mismatch between consent holders' understanding of their rights and an objective assessment of these property rights. Some differences exist in respect of transferability, but this is relatively minor in terms of current management of the resource.
 - The quality of title is the most affected of the rights. This is associated with lack of specification of the resource from which the water was drawn, which creates uncertainty over future access. While quality was the aspect of the property right identified as most attenuated by extractors, their management response by and large appeared minimal. We believe that they rationalised the risks posed by lack of quality and duration in the title, and it is likely that they had good reason to do so as custom and practice probably support their position. The exception to this was the claw back and use it or lose it provisions in the Tasman district, which appeared to be having significant impact on beliefs and behaviour.
 - Flexibility of the consent was significantly affected by specification of rates of application and land use. This was of varying concern to landholders with some considering it could be managed, and others worried about impact on their ability to change land use and subsequent effects on land value. Flexibility did not appear to be significantly affecting management at present, but many consent holders could see that there could be problems in the future.
 - In terms of duration, most extractors understood the length of their consents. They also felt that the probability of renewal was high, and this did not register as a significant concern in the short to medium term. Duration did not appear to

affect investment or management behaviour. We have some concerns in the longer term over issues of duration – particularly expectations of renewal – and believe that this area could be made more transparent for all stakeholders.

- Transferability was the main area where there was a mismatch between consent holder's understanding and the real situation. Despite most councils having policies which allowed or encouraged transfer, many participants (other than Tasman district) believed that this was not allowed or did not approve of the practice except where land ownership changed. This did not appear to have affected behaviour significantly at present because of limited opportunity for trading.
- Exclusivity was discussed, and there were some minor concerns, but neither this issue nor divisibility were major issues for consent holders.
- Beyond quality of title we felt that flexibility and transferability had the greatest scope to distort investment and management behaviour in respect to the property right. In particular constraints on flexibility, were already distorting actions by some of those spoken to.
- The influence of other stakeholders on property rights of consent holders was perceived by holders to be increasing and would be of greater importance in the future. The other stakeholders however perceived consent holders to have a very high level of security with their right. These other stakeholders face high transaction costs in maintaining their perceived property rights, and it may be that better definition of their rights would reduce transaction costs throughout the system.

1. Background

Property rights are an integral element in the management and use of resources. Property rights define who has an interest in a resource, and the extent of that interest. They are defined by custom, convention and law and they affect the behaviour of people managing and using a resource. The government's Sustainable Development Programme of Action has identified problems with how water is allocated and used in New Zealand and it may be that these problems are related to the way in which property rights are held in water.

Under common law water could not be owned - it could be appropriated by placing it in storage, but could not be owned directly. Under common law however there were rights to use water, but these were generally extinguished by the Water and Soil Conservation Act and/or the RMA. While there are some situations where rights were not extinguished under the RMA¹, and some situations where water is able to be taken as of right, most rights to take, use, divert or dam water are granted by means of a resource consent. Section 122 of the RMA explicitly states that resource consents are not real or personal property. Consequentially a resource consent or water permit does not convey ownership of the resource. Nevertheless a resource consent to take water represents a valuable commodity, and the nature of the rights associated with it affects the behaviour of the holders.

MAF and MFE wish to understand the way in which stakeholders in water view their property rights, and whether this restricts or encourages desired behaviour. The ultimate policy question for these organisations is whether adjusting the system of property rights for water in New Zealand would result in more efficient, equitable and sustainable water allocation and use. This study was commissioned to address the issues surrounding property rights in water, and aims to answer the following questions:

- What are the property interests associated with the taking and use of water (including, private interests, interests conferred by existing consents, Treaty, Maori and societal expectations)?
- What is the basis of those rights (legal, convention, customary, etc)?
- What are the various perceived rights (societal expectations) by other users and interest groups?
- What are the mismatches between actual and perceived rights to take and use water?
- How do users act based on real and/or perceived property rights?
- How could resolving the mismatches result in more efficient, equitable and sustainable allocation and use of water?

The following sections summarise the literature and legal status of rights to water in New Zealand. This is followed by a discussion of custom and tradition in terms of rights and a of different types of rights and by whom they are held. The report then outlines the status of property rights in the study areas, contrasting this with the understanding of various

¹ Such as mining privileges.

stakeholders of their rights and how this impacts on management and behaviour. The final sections discuss the implications of the research.

2. Characteristics of Property Rights

Ownership of property is an everyday fact of our society, yet it is rarely that we think about the different types of ownership that exist. We can have a piece of clothing, a block of land, and we can buy a fishing licence, and in each case we may think of ourselves owning something. In practice however our ownership is markedly different for each. We use a property rights framework to understand the different types of ownership, and how they affect behaviour. Property rights are broader than ownership, and the use of the term is not intended to convey ownership in a narrow legal sense.

We can define ‘property’ pretty much as anything that we find useful. Property can be something tangible, such as the piece of clothing or land. It can also be intangible, such as ideas and intellectual property². We establish rights over that property – hence ‘property rights’. The rights operate in a number of dimensions – such as the ability to prevent someone else using the property, to sell it, to use it in various ways etc. Our rights to a chattel such as a piece of clothing is the closest to pure set of property rights, as we can use the clothing as we wish, prevent anyone else from using it, and dispose of it as we see fit. In the case of freehold land we hold “Estate in Fee Simple”. This gives us a bundle of rights to the land, which allows us to use the land in a number of ways, to largely to dispose of it as we see fit, and mostly exclude people from it. The fishing licence gives us a right to use the fishing resource, but we can’t exclude anyone else with a licence from doing to, and we can’t sell the licence to anyone else. Property rights can be overlapping, and will not necessarily all be allocated to the same owner.

The key issue with a property rights framework is that it is not the property which is owned, it is the rights to use the property which is owned. The nature of the rights that we have to the property define the way that we use it. Importantly because property rights distinguish the rights of an individual from the rest of society, they have scarcity and therefore value.

There are four broad types of property – private, common, public and open access. We can define these according to the ability to control access and management of the property as shown in Table 2 below. Problems arise with property which is not owned or managed by an entity. Because no-one can be excluded the intensity of use can rise to the point where the resource is destroyed – the so called “tragedy of the commons”. Economists consider therefore that the establishment and vesting of property rights over a resource is a more efficient means of management than open access, even though it may fully or partially alienate the resource from parts of the community.

² For example Johnny Wilkinson is said to be trademarking his characteristic kicking stance.

Table 2: Types of property ownership³

	Owner	Example	Access	Management
Private	Private	Freehold land	By owner	By owner
Common	Group	Common land	By joint owners	By joint owners
Public	State	National Park	State	State
Open Access	No-one	Open ocean fishery	Uncontrolled	None

Rights are typically defined and enforced by the State, and in the case of water we are interested in the set of private property rights which have been created in public property (the water resource) through a resource consent.

The characteristics of the property right are of key importance in the way the resource is managed by the right holder. For example a short duration property right does not encourage a long term view of investment in and sustainability of the resource because the owner has to extract maximum value from the resource in a shorter period of time, and this may lead to management strategies which differ from those of a rights holder who is able to extract value over a longer period of time.

Johnson (2003) reviewed the conceptual frameworks for addressing property rights. He describes frameworks such as that of attenuation and the definition of an efficient set of property rights. The concept of attenuation is based on property in an ideal, unattenuated state, such as private chattel ownership. The owner has completely free rights of use, exclusion of all others, to any use, and complete alienation. Any attenuation of the rights of the owner from this state will reduce the value of the property.

The concept of efficiency of property rights takes into account the costs of negotiating rights, the costs of policing, the costs of establishment, and the costs of litigation. The set of property rights which minimises these costs is an efficient set. In this context Anderson and Hill (1975) note the way that willingness to invest in the development and protection of property rights in the American West varied with competition for the resources and technology⁴ which enabled their protection.

Guerin (2002) uses a detailed breakdown of property rights based on Scott (1988). The characteristics of the property rights of key interest are:

- Flexibility: the extent to which the owner can change the mode or purpose of resource use without forfeiting the right.
- Divisibility – the ability to create joint ownership, to divide the asset spatially or by function, to construct temporal succession of rights

³ From Guerin, 2002.

⁴ Such as barbed wire which enabled low cost fencing of previous rangeland.

- Quality of title – enforceability, certainty, security, ease of establishing ownership. Defines how secure the property holder can feel that the specified property will continue to be available in the future.
- Exclusivity – specificity, excludability, how many other parties to agree with on use,
- Duration – permanence, length and arrangements for renewal
- Transferability – assignability, exchangeability, tradability

These categories are not completely independent or exclusive. For example the value of all the other characteristics is enhanced as duration increases (Scott 1988), and an increase in flexibility enhances the value of divisibility and transferability. The aim of a property rights regime is to maximize the incentives for property owners to maximize the long term value of the resource. This produces the most efficient outcome for society. Conceptually using the Scott approach the incentives are maximized when the right exists in perpetuity, is completely flexible, certain and secure, can be simply and costlessly transferred, and where others can be completely excluded from the use of the right.

Note that the aim is to maximise the property owners' efficiency of decision making, which relates essentially to *private* goods. Water, as with many other property types, is subject to both public and private rights. The private property right must therefore be structured within a framework which takes into account the externalities which the use of the resource may generate to other stakeholders' rights. For example in the case of water this may relate to rules governing extraction and use of the water to control adverse effects of the take. It also needs to take into account other stakeholders' rights in the water, particularly where the private and public rights are mutually exclusive.

The following section describes the framework for property rights to water in NZ.

3. Property Rights Framework

Legal Definitions of Water Property rights

Property rights can arise through law, custom/tradition and use. However the State defined and enforced property rights represent a useful starting point for an analysis of rights in water. In legal terms⁵ regional councils are empowered under the RMA to grant water permits which allow the holder to take, use, dam or divert water subject to availability. Consents are not required for water takes in some limited circumstances (e.g. domestic use, stock water, fire fighting), and consents cannot be granted for in stream use.

Water permits:

- do not constitute ownership of the resource

⁵ This section largely summarises the property rights aspects of the Milne and Mooar (2002) report. This report should be read for more detail of water allocation and property rights.

- may be granted for up to 35 years, but if no period is specified, are granted for 5 years (section 123(d)) of the RMA;
- may be cancelled by the Regional Council if not exercised for a continuous period of five or more years (section 126) although a different period may be specified in the consent;
- may lapse if not given effect to within 5 years of the grant, unless the consent specifies a different period or an extension is granted (section 125);
- do not run with the land, but are personal to the consent holder (section 122);
- are transferable in some circumstances (section 136), and may be sold, gifted or "leased";
- can be acted on by other persons with the permission of the consent holder (unless there are conditions to the contrary) (section 3A);
- do not provide ownership of the water (section 354);
- do not provide a guarantee of its availability; and
- do not prevent "upstream" consents being granted which may derogate from permitted grants.

The rules under which consents operate affect the nature of the property rights. The regional council has the capacity to use:

- Minimum flows.
- Staged flow regimes (reduction in allocation with decreasing flows).
- Maximum (or sliding maximum) rate of takes.
- Allocatable volumes.
- Sharing regimes.
- Rostering regimes.

The council has the capacity to define these flow management tools in a plan for the resource, but these plans have not been established in all regions. Consent conditions can be reviewed under a number of circumstances. Of particular note is the introduction of a rule in a regional plan, at which time all consents may be reviewed to ensure compliance with the rule. Some consents also contain review conditions, which allow the consent to be reviewed in particular circumstances for specific purposes even in the absence of new rules in a regional plan. These are particularly common in longer term consents.

There appears to be no right of renewal of consents, and there is no discussion in the act on renewals, so in theory renewals should be treated as for new applications unless a condition of a plan says otherwise.

While the consents are not ownership, they do constitute a valuable commodity, and importantly they are granted to the individual rather than to the land. Transfer is allowed if expressly allowed for in a regional plan, and/or it requires the approval of the regional council. The RMA does not appear to exclude transfer on a partial or temporary basis, and sharing the water in a consent also appears to be allowed subject to conditions to the contrary.

The use of the water appears to be a relevant consideration in the granting of a consent, and it also appears that efficiency of use may be grounds for a review of a consent if this condition is allowed for in the plan or consent.

Custom and Tradition in Water Rights

The role of custom and tradition has not been well explored in water rights. However it is an important factor in defining the property rights for water. The concept of customary use is enshrined in existing use rights, although these are largely extinguished⁶ in respect of water takes by the RMA. Importantly however the status of existing users is established partly by custom, since this is an aspect which is taken into account by the courts in deciding on the appropriateness of any attenuation of a property right. Coase (1960), in discussing the application by courts of the common law of tort, notes the use of concepts of what is fair and reasonable as important determinants of court judgements. Similarly Milne and Moorar (2002) note the difficulties that the courts would have in granting an upstream right which would undermine the viability of downstream uses, even in the absence of a statutory priority in favour of the existing users.

Renewals are another area where custom extends on the act. In theory these could be treated as new consent applications, but in practice to date they appear to have been treated as renewals. Consent conditions have been altered at renewal, but we are not aware of any consents for water having been turned down on renewal.

Therefore while many of the property rights established in the water are not expressly covered by the statutory framework, custom is likely to tend to favour the rights of existing users over new users both in the courts and at the council planning and consent issuing level. Property rights established through this means are necessarily not as strong nor as well defined as those which are embodied in statute. As such they are not a simple extension of the common law approach to managing water, but are more loosely defined, and more likely to change with society's changing understanding of what is right in respect of managing the resource.

MAF's view of the legal position surrounding Maori rights to use water as a physical resource is that the rights guaranteed to Maori under the Treaty of Waitangi roughly equate to those that may be held by Maori under the common law doctrine of aboriginal title. Generally speaking, the doctrine of aboriginal title may recognise the right to use water, although it is not clear in the water context whether this extends to the right to use water in ways in which it was not historically or traditionally used. The right of use recognised under the general doctrine appears to be consistent with the general common law position that natural water is not 'owned' as such. That is, it preserves a right of use rather than the right of ownership.

However, it is difficult to predict the nature of relevant interests or rights in water that may be found to survive in New Zealand by virtue of the doctrine of aboriginal title

⁶ Or in the case of mining privileges will be extinguished.

and/or the Treaty of Waitangi. To a large degree, it will depend on the nature of the historical practices and customs that it is sought to protect, and the evidence that can be produced in support of any claim. Basically, any claim or claims to rights or interest in water itself must be considered as they arise and on the information presented in support of that claim.⁷

Framework

The granting of rights in water are undertaken by the State. Some of these rights are granted or alienated to private interests, and others are retained by the State. Common ownership of water rights in NZ arises as a result of granting of rights to private interests, and in practice the management of common ownership is structured so that interests are managed as if they were privately held⁸. In practice we are primarily concerned with only public and privately held property rights in the water.

Private Property Rights

Private property rights relate to property from which others are excludable. In New Zealand this typically requires a resource consent, although some of these rights are established by existing use and some through mining privileges. All existing uses requiring a resource consent should have been converted to consents by now (within 10 years of enactment of the RMA) and the last of the mining privileges will expire in 18 years. Existing use and mining privileges where they exist are accorded the highest security as property rights because in theory they were not subject to regional plans and in the case of mining privileges represent a completely flexible and transferable property. Mining privileges are confined to Otago however, and their specific case does not represent a universal issue in respect of property rights.

The majority of private property rights in water are therefore represented by consents. These are subject to rules in regional plans and are limited in duration.

Non-consented takes represent a special class of takes, since these are allowed specifically under the RMA or are permitted by a rule in a plan. Those permitted under the RMA are small scale domestic and stockwater takes, fire fighting, and customary Maori usage of geothermal waters. These are limited in scale, and must still meet the requirements that the takes do not have an adverse impact on the environment. It is unclear what status these have in respect of priority in the RMA – for example it is not clear whether a domestic take would be allowed from a resource where consented takes

⁷ The Waitangi Tribunal has commented on the potential existence of such rights and has suggested in the case of the Whanganui River that Maori may 'own' water in the river by virtue of the fact that Maori were recognised as the possessors of the Whanganui River as a whole. The Tribunal reasoned that, without ownership of the water within a river, ownership of that river is meaningless. Accordingly, at least for as long as the water remained in the river, it may be considered as 'owned' by the relevant hapu. However the 'ownership' recognised by the Tribunal in this instance differs from the English legal understanding of that term, and is based on an ownership which stems from use rather than use which stems from ownership.

⁸ For example the Rangitata Diversion Race Company structures itself as a water supply company which delivers water to three irrigation schemes and a power company, and each irrigation scheme grants shares to its members which represent entitlement to a specific volume of water.

were allocated to the point where further takes had adverse environmental effects. In practice most councils make an allowance for domestic water takes in their allocation planning, and also accord domestic takes higher priority than other takes in any competitive applications.

Public Property Rights

Water is not owned, but the rights to use the water in various ways are owned. Some of these rights the State alienates to individuals, and others it effectively retains in its ownership. In practice the retained rights to water represent those which various other stakeholders in society have an interest – such as the ecological values, the fishery, amenity values etc. These are generally allowed for in the RMA as effects which need to be taken into account in the management of the water resource. Some of these effects have a higher status, such as those in section 5 (environmental and sustainability issues) and section 6 (matters of national importance). Other matters in Section 7 such as kaitiakitanga, amenity, intrinsic ecosystem values, environmental quality, and the trout and salmon habitat have lower status under the act as matters to which the consenting authorities should have “particular regard” rather than matters which must be provided for.

The stakeholder rights are therefore strongly related to the effects based regime. Some values such as natural ecosystem related values appear in all sections, and therefore can probably be seen to have the strongest property right. Others, such as recreational and fishery interests, are only catered for in section 7, which would give them approximately equal status to “efficient use and development of natural and physical resources” which is also mentioned in that section. As is discussed below, the fact that non extractive stakeholders are not seen as having existing property rights in the water resource with the same level of protection as other existing use rights was a significant bugbear of stakeholders spoken to. These rights are generally exercised through the planning and consent hearing framework.

Property rights of Maori are less clear. As noted above they would appear to have aboriginal title to water under customary use, but how this translates in practice is not well established. Kaitiakitanga is protected as a section 7 matter, giving it equal status to a number of other matters including development.

4. Approach

Focus group meetings were undertaken for the irrigation and public/non extractive users. This comprised three meetings for the irrigation groups and a further single meeting for the public and non extractive stakeholders. The irrigation groups were configured to cover surface, stored and groundwater, with meeting in Canterbury (Dunsandel/Te Pirita groundwater primarily with some surface water), Tasman (Groundwater primarily with some surface in the Motueka valley), and Marlborough (Awatere valley - surface and stored water). The domestic, industrial and hydro viewpoints were covered by individual interviews rather than focus groups because it was considered that their issues would be

sufficiently different from those of other extractors that combining them would be counter-productive.

The focus group meetings and interviews had two objectives. They aimed to:

- identify the beliefs of the groups about the nature of their property rights
- identify the way in which those beliefs affect behaviour in relation to the resource

The study did not have the resources to develop a detailed understanding of the behavioural implications of the participants' beliefs. The aim of the meetings and interviews was to understand the situation as reported by participants. There may therefore be some reporting bias associated with the results to the extent that this was not able to be isolated by questioning. Responses were not validated through any other formal means.

The focus group meetings with irrigators were undertaken in a structured way, with introductions, general discussion and small group consideration of scenarios. A template for the focus group meetings and the questions worked through with the small groups is shown in Annex 1 below. Each focus group had 8 – 12 participants. Individual interviews followed a similar but less prescriptive format, with questions tailored to the circumstances of the interviewee.

Councils in each of the study areas were contacted to discuss the nature of the consents.

The scope of this report does not specifically examine the perceptions of Maori in relation to water allocation and use, or address whether those perceptions would raise any further issues. An additional process is required to specifically investigate these issues.

5. Property Rights in the Study Areas

This section discusses the property right which the consent and RMA gives to the holder, and compares this with that which was perceived by the holders interviewed.

Flexibility

Consents are often specific for take and use, with the intention that the take consent addresses effects on the source water body, and use deals with efficiency requirements and effects associated with how the water is used. In many regions a digression from the stated use or any of the specification may require a review of the consent which may open up the opportunity to change or alter any aspect of the consent, and in some cases a change in the amount of water available. There are some restrictions on flexibility which necessarily arise from the nature of the resource – e.g. run of the river takes are flow based and cannot be moved temporally. Others, such as groundwater resources, may be unnecessarily restricted by being specified on a flow basis where a bulk allocation for an irrigation period may be more appropriate.

All three of the areas studied specified the way in which the water could be used. Canterbury requires that the land use and application rate be specified, and Tasman requires that the irrigation type and application rate be specified. Marlborough have moved to separate consents for extraction and use, but because the abstraction volumes are linked to land use, in practice this does not greatly improve flexibility. All three require that the consent apply to a specific location.

In practice the land use and probably location conditions of the consent are likely to be alterable, although they require application to the council to make these changes. Extractors were all aware of the limitations imposed on flexibility. In some cases this was regarded as limiting management freedom, but in most cases the controls on flexibility were merely seen as a minor inconvenience. This was because:

- The consent conditions could be changed if necessary, with some transaction costs associated with hire of experts etc if necessary.
- Monitoring of consent conditions associated with use was weak and in practice minor changes could be made without consequences.
- Changes in water allocation to different land uses could be overcome by transferring water to unirrigated parts of the farm.
- Selling or leasing of excess water where the change results in current consents exceeding allowed consents for the new use (Tasman).

It appears that the limitations on flexibility are not significant at present, and in Marlborough and Canterbury represent an ad hoc approach to trying to control land use. As such they are not very effective, and may be better replaced by a more comprehensive planning regime. Tying the water to a specific location was potentially limiting on transferability, although this had not been tested among the focus groups.

Non-extractive stakeholder groups were varied on the need to constrain flexibility. Some saw a need to limit flexibility as a way of maintaining effective control of intensification of land use and to ensure efficient use of water. Others were less concerned about the use to which water was put, as long as outcomes were managed appropriately. Some saw no particular advantage to in stream values in encouraging efficiency unless the gains from efficiency resulted in water being returned to the resource. Currently gains in efficiency are captured by the extractors resulting in greater intensification, and as a result downstream ecological values may be further affected.

Quality of title

The quality of title is hugely variable among regions. The Milne and Mooar (2002) paper discusses this and the authors note that property right can be altered by:

- Availability of the resource.
- Consent review initiated by alteration to river abstraction rules associated with a change to a catchment, regional or national level planning mechanisms
- Water shortage orders
- Review for efficiency issues if allowed for in regional plan and/or the consent

- Further consents, particularly upstream consents or equivalent consents affecting reliability (although this is unlikely where it affects the viability of the prior consent).
- Review at the end of the consent period.
- Cancellation if not used for 5 years or more.

The quality of the title is therefore somewhat attenuated from the ideal, highly secure property right.

From the extractor's point of view, quality of title was the aspect of the property right about which they were most concerned. Their concern arose primarily because of the potential for changes to the consents and the threat of increase in allocations affecting their own take, particularly in reliability terms.

Most extractors felt reasonably secure in the short term regarding potential changes to their consents, but in the medium term both the Tasman and Canterbury irrigators see the potential for changes to their consents. This arises because of over-allocation of the resource in the case of Tasman, or because a lack of secure planning environment which could see further water allocated without knowledge of the resource, resulting in a less reliable supply and cutbacks in the future once the resource is better defined. Marlborough consent holders appeared generally more secure about their quality of title – possibly because of a plan being in place and a perceived conservative allocation of the resource.

In the longer term all extractors see a big risk from changes in the political environment, with the environmental and recreational lobbies becoming more powerful. Climate change was also seen as creating the potential for further attenuation of their property right.

The lack of a secure and scientifically well founded planning regime were cited by both extractors and other stakeholders as the greatest limiting factor in more secure property rights.

The stakeholders and extractors had greatly differing views on the quality of title. The other stakeholders saw the extractors as having an enormously secure title, with renewals almost automatic and changes only of a minor nature. They also believed that the capacity of extractors to profit from the water leads to an ability to spend more money on securing the consents under favourable conditions, where other parties had to fund the costs of fighting for their rights without any associated income stream from the resource.

Exclusivity

In general a single consent is reasonably exclusive, since the holder has the sole right to the allocated water. However there can be constraints on this – such as with community irrigation schemes (where the right may be shares in a water distribution company), or in water short situations with water user groups.

In general exclusivity was not seen as a major concern, although in some areas the lack of monitoring of consents compliance was raised as an issue. There was a general concern at the low level of compliance monitoring in Marlborough, and some discussion about this issue in Canterbury but no general concern that illegal takes were occurring. In Tasman the level of compliance monitoring was high, and was seen by some as officious.

Among other stakeholders there was almost universal agreement that monitoring of consents by councils was poor.

Duration

The term of consents can vary, and typically is between 7 and 35 years. The expectation that renewal will occur has not been strongly tested at this stage, with most renewals being roll-overs under transitional regimes.

Extractors were universally aware of the term of their consents. These varied between 10 in Marlborough, 10- 15 in Tasman, and 35 in Canterbury. In practice the Canterbury extractors felt their term of 35 years was meaningless, because the consent conditions could be changed at any time. In other areas the stakeholders were aware that renewals were treated as new consents⁹, but for practical purposes they felt that as long as the consent conditions were being met, it was highly unlikely that the consents would not be renewed. Their experience of neighbour's reapplications confirmed this as the common practice in their areas.

The other stakeholders saw the rights of renewal as very strong, with no applications for renewal having been turned down. They felt that consents should be limited to a 10 year period, as changes in scientific knowledge and planning regimes meant that longer periods were inappropriate.

Transferability

In principle water consents are transferable, and this will happen as a matter of course with the sale of land for which consents are part of the sale and purchase agreement. However the key issues for water consents are the ability to transfer away from the land, the ability to transfer part of the consent, and the ability to do so on a temporary or permanent basis. Legally there does not appear to be any impediment to transferability, although there are practical and technical constraints associated with infrastructure, the resource and its geography. Transfer may also not be a low cost process, particularly where transfer requires the permission of the regional council.

Consent holders in Marlborough and Canterbury generally did not believe that their consents were transferable. In Marlborough there was some discussion about how so called 'grey' transfers could be achieved – that is transfers which were legal in form but not substance - and they were aware that consents had been subdivided and transferred with subdivisions or transferred with amalgamation of land. In Tasman transfer is

⁹ This awareness was not universal, but typically in each group there were a number of individuals at least who were aware of this condition.

encouraged, but consent holders considered that the conditions around the transfer were limiting ability for any significant transfer. They were concerned about applying to the council to transfer water under a “use it or lose it” regime, and felt that this might result in the loss of their consent or at least a change in consent conditions.

In all regions there were a number of consent holders who opposed transfer, citing concerns about alienation of water from the land and a belief that any unused water should be returned to the common pool for reallocation. For a number of extractors the concerns about transferability echoed those of other stakeholders, and reflect a common view of water as a public or common property for the community. In this view there are “proper” uses for the water as a public and free resource, and for these people buying and selling the water was not seen as an appropriate use.

Opinion was divided among the other stakeholders regarding the desirability of transfer. Some had no concerns and felt that this would allow water to go to the highest value or most efficient use, while others had a philosophical objection to trading in what was seen as a common property. Others did not object directly to transfer, but objected to consent holders profiting from a free resource and would only favour transferability if consent holders paid for the resource. A number of individuals cited concerns about what a market system might do, with the “water baron” concept cited.

Divisibility

In principle the water consent is divisible, although this is not always simple and may require application to the consent authority or some other means of sharing. Some consents, such as the Rangitata Diversion Race (RDR) take or other community irrigation schemes, are very divisible since the water is split among a large number of users without any difficulty. However individual takes may have greater transaction costs associated with divisibility if the change needs an alteration to the consent conditions.

In practice for most consent holders divisibility is an issue primarily associated with transferability, and as this was not a major issue divisibility did not feature as a major concern. For this reason the extractors and other stakeholders were not questioned directly.

In some areas consents had been divided and transferred with subdivision. These cases also cited practical ways around lack of simple divisibility, such as sharing of consents.

Discussion

We believe that the research we have undertaken has conclusively disproved the hypothesis that there is a mismatch between consent holders understanding of their property right and their actual property right. Except for the issue of transferability, where conditions were more permissive than many believed, the extractors had a very clear understanding of their rights. They also had a clear understanding of the practical implications of many of the conditions and the issues associated with changes to their consents. In a number of cases consent holders rationalised the impact of constraints by

noting that with legal representation and consulting experts, it was usually possible to obtain a consent with conditions which, if not ideal, were manageable.

The consent holders do see their property rights as being significantly attenuated in respect of flexibility. There was some concern about duration, but those with shorter term consents were more concerned about the quality of the right and potential changes to their rights, than they were about whether the consent would be renewed. The major issue for all was the quality of title and potential for changes which would encroach on their right. These concerns included:

- Potential encroachment with continued allocation from the resource
- Use it or lose it conditions
- Claw back provisions under the Tasman District Plan
- Greater impact of environmental and recreational lobbies on future abstraction regimes
- Potential impact of climate change on river flows and on flow management regimes

We feel therefore that the major constraint on the property rights at present is a lack of adequate specification of the property right. This includes a lack of adequate investigation and knowledge of the resource, so that the appropriate level of abstraction is unable to be defined, and inadequate planning regimes, which have not defined total abstractions and flow levels which are sustainable in the longer term.

These conclusions were fairly uniform across resource types (groundwater, surface water and stored water). There were greater differences in specific concerns among regions, with Tasman and Canterbury interviewees more concerned about quality of title than those in Marlborough. These differences were associated with the planning framework and resource status, and reinforce the conclusions reached above.

These concerns were echoed by other stakeholders consulted, who felt that their property rights in the resource were undermined by an inadequate planning regime which did not provide certainty either for themselves or for consent holders. These stakeholders were also concerned about their ability to respond adequately to consent applications, with funding being a major issue. The comment that money gives rights was noted several times from this group, and in fact was echoed by the consent holders who commented that while the requirements to get a consent were arduous, providing legal and expert advice was hired, consents could usually be gained. This trend should be viewed with concern, but it is probably the outcome of an uncertain scientific and planning environment.

6. Effects on Investment and Management Behaviour

This section discusses the influence of perceptions of the property right on the behaviour of the consent holders. It should be noted that this section is based both on actual actions and on reported behaviour.

The major feature of the behaviour of consent holders is the almost universal investment and management behaviour as if the consent confers very high security of property right. This was despite the consent holders generally having a very good understanding of the actual nature of their right – that its duration is restricted, the potential for changes to be made, and the lack of automatic rights of renewal. It appears that by and large the consent holders are rationalising the risks that they face. They regard them as risks their business faces, and while important, are by and large not on their own constraints on investment and management. One interviewee described them as “watching brief risks” rather than constraining risks. This process of rationalisation is interesting, but not one into which we have gone in great detail since it would be a major project in its own right. However we do offer the following observations:

- The consent holders appear to have a strong belief in custom and practice heavily favouring existing consents in respect of water rights. It approached a belief that they had a type of existing use right in the resource. This leads them to believe that the regulatory authorities will be careful in respect of further actions which adversely affect their rights, and will tend to favour existing consent holders at renewal time. They believe that changes to their consent will occur, but that they will not be of such a radical nature that they cannot be managed through. Even casual perusal of regulatory authority behaviour to date tends to support this view.
- The consent holders appear to have a strong belief in their own ability to influence the consent granting and regulatory planning process. A number of times we heard from consent holders that while there were issues with the regulatory process, with the application of time and money, hiring of legal representation and experts, and a scientific case made, the regulatory agencies were generally amenable and a satisfactory outcome, with suitable mitigation measures, could be gained.
- While their behaviour was generally in line with holding a strong security, most did feel that they were exposed to some risk in the longer term with changes to planning documents and conditions in their consents. Council policy, such as claw-back had significant influence on their perception of the security of the right and influenced their behaviour. This appeared to lead to changes in behaviour with a view to protecting their existing right, such as consistently using all water consented, and an unwillingness to trade water or change land use.
- There were a small number of people (fewer than 5 overall) who dissented from this view of security in the consent, with some expressing extreme dissatisfaction with the process. One individual said he would not undertake another irrigation development in New Zealand because of the consent process and insecurities associated with the right.
- There was possibly an element of group thinking in respect of behaviour relating to consents. This has two aspects – managers gaining reassurance from

neighbours and others in the peer group who are acting as if there were full security in the property right; and an element of gold rush mentality, where those who aren't miss out on the right. The latter case, which we observed in resources which are not fully allocated, is exacerbated by lack of transfers occurring, a "first come first served" allocation regime, and a "use it or lose it" regime which requires irrigation development to occur when the consent is granted or it is lost. It would not be fair to state that this type of thinking was prevalent, nor is it possible to prove that it is the driving force behind perceptions and actions of consent holders. However we do suspect that this is an element of the cognitive and behavioural mix.

7. Discussion

There is a strong interaction among the different aspects of property rights. For example transferability is theoretically relatively unattenuated, but in practice it is limited by the flexibility and divisibility of the consent. Flexibility could be enhanced, but to move away from the attempt at regulation to achieve efficiency and control of land use would require a strongly operating market system which would direct the water to move to its highest value use.

At present regulatory agencies are reluctant to grant high quality title for any duration, because of the potential need to change management of the resource. This highlights the strong link between quality of title and duration. Furthermore one would not wish to increase the quality of title without ensuring that transferability and an operating market was in place, since without this an increase in quality of title may lock in rights without allowing for the water to move to its highest value uses. As Coase's theorem (Coase, 1960) notes in respect of property rights of nuisance, it doesn't matter to whom the initial rights are granted, as long as a mechanism for transfer of those rights through negotiation is available.

All aspects of water property rights are dependent on clearer definition of the quality of title, particularly associated with greater scientific understanding of the resources, and a clearly defined planning regime specifying the flow or resource management regime. This is the key area of action required in respect of property rights. We feel however that there are a number of further issues which may warrant further attention. These are discussed below.

Flexibility

Most consents are specific about issues such as irrigation type, application rates and location, with two of the areas studied appearing to use the irrigation consent to limit land use. The consents also tend to have a "use it or lose" it provision. There was general agreement that this was potentially limiting in terms of the ability to manage the water in the consent, but for those consent holders studied it had not been an actual constraint – primarily because most had not needed to change land use or if they wished to had

applied to the council and had the change accepted. That is the consent holders could see *potential* problems in the future, but had not *experienced* them. While we see these constraints as a clumsy and rather *ad hoc* means of managing land use, those issues are outside the scope of this report. We do however see some property rights issues in respect of constraints on flexibility which have the potential to distort the investment landscape. These are a constraint on moving to land uses which use less water, and constraints on transfers of consents.

Ideally the limits on flexibility would only affect the changes in land use to the degree which was needed to limit impact on the environment. However the reality of the allocation system is that while amounts of water which have been consented can go down, they are unlikely to increase if the change in land use is one which requires more water rather than less. The asymmetric nature of this is exacerbated by the thin or non-existent market in water, with landholders understanding that if they give up water they are unlikely to be allocated more nor will they be able to buy it back.

In some cases, such as the Awatera where land is being converted from pasture to grapes, this is managed by the landholder by extending the pastoral irrigation elsewhere on the property. This is achievable because the consent is rarely sufficient to irrigate the whole property. However in other areas, such as Dunsandel/Te Pirita, where the most of the available land is irrigated in a property, extra land to manage the change within a property may not be available. We are concerned that in the long run this may distort moves into alternate higher value land uses where these have lower water use, since this would result in loss of a water right that in current circumstances cannot be regained.

Tying the consent to particular locations and land uses also places a barrier on the transferability of water. Again this was not observed directly, because transfers have been very limited. While it is likely that, subject to it meeting the appropriate requirements, any new land use in conjunction with a transfer will be approved by councils, the requirement places an additional barrier to a market system for water and adds considerably to transaction costs.

The constraints on the amount of water consented for an area of land are designed to impose some lower constraints on the efficiency with which water is used. While this is admirable, it imposes further constraints on the flexibility of use of the resource. If a regulatory approach is needed to manage efficiency, it may be that constraining an application rate rather than the consented amount would be more efficient.

The “use it or lose it” provisions appeared to be working against efficiency in the Tasman area, where in conjunction with an overallocated resource and the desire by the council to claw back a large proportion of allocations, they appeared to be encouraging landholders to irrigate where otherwise they may not in order to retain use rights.

It is worth noting here that there may be considerable opposition from other stakeholders to increasing flexibility of consents, because within the other stakeholders focus group

there was a significant body of opinion which saw other means of managing land use and efficiency as ineffective.

Transferability

The interesting feature about transferability was that, apart from the Tasman focus group, almost all groups and interviewees perceived quite severe limitations on transferability, regardless of whether they were in favour of it or not. This is despite the fact that the regulatory agencies all have policies which state that transferability is allowed under particular circumstances. The perception of limitations on transferability is possibly a reflection of the difficulty of completing a transaction with the need to go through the consent process, the transaction costs involved, and the relative scarcity of trades being undertaken.

In Tasman district the claw back provisions have made many deeply suspicious of the council's desire to encourage transferability. There is a feeling that if the council is approached to undertake a transfer, that the water will instead be taken away (under the use it or lose it provisions) and returned to the common pool. Here the focus group also noted the restrictions on transferability with the tight zoning system, which constrains ability to trade quite considerably. It may not be possible to overcome these latter constraints however as they are geographically defined.

It appears from the discussion held that transferability is not a strong aspect of property rights because of both practical and regulatory constraints. It may be that to reinforce this aspect of property rights a more pro-active approach to strengthening transferability is needed.

Duration

Duration did not appear to be a major issue with consent holders. In practice most of them believed that their consents were renewable, since this appeared to be common practice among councils. However this status is not enshrined in statute, and appeared to be noted in only one council's planning regime. It may be that this status will continue, but it may also be that in the future consents will not be renewed.

From a regulatory point of view it does not really matter whether the consent holder's actually have a long term right or whether they believe they have a long term right. In practice it only matters that they behave as if they have a long term right. In this sense the current situation is perfectly satisfactory, since the consent holders are certainly behaving as if they have a long term, renewable right. It is difficult to judge whether they are correct in this, since in practice their faith in the rights of existing consent holders may indeed be soundly based on an enduring custom in our society.

However in the long term this may not be desirable. It would take only one high profile non-renewal for landholders to change their view of the duration of their consents, which

is likely to dramatically alter their management of the resource. It may also lead to a loss of faith in the regulatory process, with impacts on other aspects of resource management. As a general rule transparency is generally a preferable strategy, and we believe that the status of consent renewals should be clarified.

Transaction costs

All parties noted the high transaction costs associated with the current property rights regime. For consent holders these arise when seeking consents, with consent renewals, and in keeping up to date with the political and planning environment. For other stakeholders these arise from having to submit on all consents in those locations where no plan is operative, and in having to keep up to date with the planning process. Some consents require reasonably large sums of money, and the costs for other stakeholders in opposing consents and submitting on plans can run to hundreds of thousands.

It is difficult to tell whether the transaction costs are *too high* however, particularly for consent holders. The gaining of a consent confers an enormous increase in capital value on a farm property, even if the consent has no independent market value at present. Landholders recognise the capitalisation of the value of the consent¹⁰ and while they are not happy having to spend money on legal and expert assistance, they appeared to be not overly upset by it and recognised it as a fact of life. There was no evidence that the costs were prohibitive relative to the value to be gained. The issue of uncertainty associated with quality of title tended to be much more hotly discussed, perhaps indicating where priorities lie.

Other stakeholders on the other hand were resentful of the costs involved for them in defending their rights to the property. These organisations struggled to obtain sufficient funds to hire expertise, and they felt that their cases were much weaker as a result. It may be that in the context of the transaction cost approach to property rights, it is appropriate now to reconsider means of formalising the property rights of these groups in such a way that reduces their ongoing transaction costs in the water allocation and management system. A clearly defined plan and allocation regime would be an important first step, but it is not clear whether this would be sufficient.

8. Conclusion

This report and its conclusions are based on a small sample, with limited time to spend with each group and individual. The responses were not independently validated, and as such the conclusions are based on reported understanding and, to the extent possible, observed behaviour. The report and its conclusions should therefore be read with some

¹⁰ Many responses to the scenarios where property rights were further attenuated were translated directly by landholders into a decrease in the value of their properties.

caution. Given this, there are some important conclusions which we believe can be reached:

- We do not believe there is a significant mismatch between consent holders' understanding of their rights and an objective assessment of these property rights. Some differences exist in respect of transferability, but this is relatively minor in terms of current management of the resource.
- The quality of title is most attenuated from a pure property right, with flexibility duration and transferability next most attenuated. While divisibility is probably significantly attenuated, this did not appear to be a major issue for consent holders at this stage. There were some concerns regarding exclusivity, but again not to any extent which would affect management.
- While quality was the aspect of the property right identified as most attenuated by extractors, their management response by and large appeared minimal. It was felt that they rationalised the risks posed by lack of quality and duration in the title, and it is likely that they had good reason to do so as custom and practice probably supported their position. The exception to this was the claw back provisions, which appeared to be having significant impact in the Tasman area.
- We felt that flexibility and transferability had the greatest scope to distort investment and management behaviour in respect to the property right. In particular constraints on flexibility, were already distorting actions by some of those spoken to. We have some concerns in the longer term over issues of duration, but this was not a major expressed concern from the consent holders.
- The aspects of property rights appear to come in packages. It would be important to address at a minimum issues of quality and duration in tandem, and flexibility and transferability together. Ideally all aspects would be addressed simultaneously, since this each influences the other. Of greatest importance initially is the need to address the quality of title to give greater certainty to all stakeholders. This will come with increased knowledge of the resources and improved planning regimes.
- The influence of other stakeholders on property rights of consent holders was perceived by holders to be increasing and would be of greater importance in the future. The other stakeholders however perceived consent holders to have a very high level of security with their right and were frustrated that their own rights were not being adequately addressed by the management process.

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Annex: Irrigator Stakeholder Group Meetings

Dunsandel

Group Profile

The Dunsandel focus group was invited from a catchment of irrigators sourcing water from groundwater on the upper Canterbury plains between the Selwyn and Rakaia rivers. Some irrigators also had properties closer to the coast utilising shallow groundwater. One irrigator was entirely reliant on run of river supply while two incorporated run of river supply into their irrigation system.

Number attending: 11

Farm Type	Number
Dairy	6
Other livestock	4
Crop	2
Horticulture	
Viticulture	
Lifestyle block	

* Numbers may not reconcile due to multiple land use.

Water Source.

Some irrigators were utilising multiple water sources. The majority of attendees (8) were sourcing their water from deep groundwater. There were 3 river takes and 2 shallow groundwater takes.

Irrigation Experience.

Years of Experience	Number
<5	5
5 – 15	3
16 – 25	2
>25	1

Key Issues.

- Certainty of supply
- consent life (x 2)

- consent to drill and take should be linked
- water allocation to new entrants
- knowledge of the resource
- consent renewal (x 2)
- water harvesting (x 2).

Summary.

The group was dominated by relatively new irrigators who were irrigating dairy farms from deep groundwater sources. The majority of experienced irrigators had further developed their irrigation capability in the last few years so all participants were well aware of the consent conditions and rules and regulations being used and proposed by Environment Canterbury.

The Nature of the Property Right

The status of the planning regime in ECan's area is that the region is still operating under a Transitional Regional Plan while the Natural Resources Regional Plan – Water (NRRP) is still in a pre draft form. Expectations are that it will be notified in early 2004. Many of the water resources are still under investigation as to their appropriate allocation regimes as part of that process. In the meantime resource consents are being allocated on a first come first served basis with conditions that will bring them under any allocation or rules regime that eventuates in the NRRP. For many of the resources the potential restrictions or rules are publicly available in the pre draft documents.

Duration

Most new consents and renewals are granted for a thirty-five year period. Renewal of the consent at the end of this period is discretionary and is treated as if it were a new application. The consenting authority has the right to review conditions annually to deal with any adverse effect on the environment.

Flexibility

Consents are tightly specified as to the:

- abstraction rate.
- depth at which water is to be taken.
- stream depletion effect.
- interference effect on adjacent bores.
- risk of contamination due to abstraction.
- method and location of measuring devices to be used.
- appropriateness of the backflow protection system.
- provision of information to the monitoring authority at specified times.
- review of conditions of consent in the timing and purpose of the review.
- financial contributions.

In some instances, on vulnerable soils, the land use is specified.

Conditions on monitoring of water use and reporting them to the council.

Exclusivity

Where appropriate, the consent refers to conditions in the NRRP as regards to the nature of any flow and allocation regime for water sharing or rationing regime in the water resource.

Quality

Consent conditions are subject to annual review and any changes in the planning regime. No guarantee of existing reliability or availability is given although reliability targets are proposed in the pre draft plan and ECan are required not to over allocate the resource. In some cases investigations may prove that the resource is already over allocated once the proposed rules come into being.

Transferability

The transfer of a permit to take or use surface water is a permitted activity. However the water take may only be transferred to an alternative site within a transfer zone. For any surface water take the transfer must be downstream of the original take and must be registered with Environment Canterbury.

Divisibility

Consents are not divisible.

Consent Holder Understanding of the Nature of the Property Right.

Duration

Consent holders were well aware of the duration and renewal conditions of their consents. There was a general feeling that renewal should be virtually automatic if they had conformed to the conditions of the consent.

Flexibility

Consent holders understood the restrictive nature of the specification of the consent. It was felt that this was quite limiting on the nature of the property right. It was felt that connecting land use to the consent was very restrictive and would have long term impacts on land value.

Exclusivity

Real concerns as to the exclusivity of property right were expressed in relation to the lack of certainty about the nature and capacity of the resource. There was a general expectation that as resource knowledge improved that further sharing and rationing rules would be adopted. There was a feeling that as new irrigators were granted access to the resource that there was a potential for over allocation or a decrease in resource reliability for all.

There was some discussion about the impact on early developers of the resource and that they should be afforded some priority over later adopters who had the potential to negatively impact on the reliability of the resource.

“Further allocation is likely to impact on recharge levels and may well have cumulative effects on the exercising of our rights. We don’t understand these risks properly”.

There was a lot of discussion around the lack of certainty because of lack of knowledge of the resource.

“Because of the lack of knowledge and information about the resource, there is a lot of uncertainty about the resource now and in the future.”

Quality

There was a general awareness and expectation that the consent conditions that specify the quality of the right are likely to change over time with the potential to negatively impact on the nature of the right. The exact impact of those changes was not well described or thought through.

“We are a bit naive as to the terms and conditions of our consents.”

The expectation was that other stakeholder interests will increasingly impinge on these conditions through changes to the planning rules and allocation regimes.

There was an expectation which was advocated and welcomed that efficiency of use conditions should continue to drive water allocation and those inefficient users should be required to improve efficiency so that all users could benefit from the resultant improvement in access to the resource. It was felt that a more strategic view of water allocation and efficiency of use would strengthen their property rights. It was even suggested that *“it is not unrealistic to expose use to market efficiency tests.”*

Transferability

Transferability of consents is not available in groundwater resources however it was felt that some form of group resource management should allow for tradability of entitlements during periods of shortage of supply.

Divisibility

The issue of divisibility was not felt to be important for groundwater users.

Expectations and Behaviour

Consent holders were operating and investing within the terms of their consents on relatively short time frames of certainty as to the nature of the right. However there was an expectation that any changes in the nature of the right would not be sufficient to greatly alter any investment or operational decisions. This would lead to the conclusion that they expected that they would be able to react to any change and minimise its impact

on business performance or management by making changes to their operation or business structure.

“I won’t change unless my conditions change.”

In other words they were managing their business as if there was a high level of certainty as to the nature of their property right and would react appropriately at the time of any possible changes.

There was a great deal of discussion around the potential for changes in the nature of the right to impact on the asset value of their business. There was a high level of recognition that possession of a water right drove development and investment and the ability to access and use water was the core of their business inputs. Therefore the potential land use and income streams were determined by the nature of the right. Any diminution of that right was felt to most likely impact on the asset value of their farming properties. This meant that there was a strong imperative to efficiently use the resource under the present conditions and fight to protect their property rights through the allocation system.

There was some comment that the present nature of the right was having a negative impact on their investment decisions in the short term and limiting potential land use options if tied to a specific land use. This impacted on the degree of flexibility they had in system choice.

There was some discussion that present conditions did not necessarily encourage maximising efficiency of use. It was felt that a more flexible trading / transfer regime would encourage both application and economic efficiency of use.

Attenuation

Consent holders believed that attenuation of the property rights was most likely to occur in the future as a result of increased knowledge and understanding of the resource and from external pressures from other stakeholders. It was expected that this would result in a further negative impact on certainty and reliability of access to the water resource. As has previously been discussed it was expected that this would impact negatively on the nature of the property right and this would be reflected in the asset value of their farming business. Farmers expressed real concern that this was most likely to occur at the time of renewal of their consents and were concerned that it could be a big problem in the future with impacts on property values towards the end of the consent period and would impact on possible succession options for their farming businesses.

The nature of the proposed allocation regime will mean that attenuation of the property right can occur at any time during the exercise of the right as a result of changes to the planning regime.

Summary

- Consent holders were well aware of the nature of their property rights.
- Uncertainty around any future changes to their property rights centred on increased knowledge of the resource which would be reflected in a change to the planning regime and the influence of other stakeholders.
- Consent holders were prepared to invest as if the property right would exist in its present form but were prepared to adjust to any potential changes in the future.
- It was expected that any attenuation of their property rights would ultimately be reflected in loss of asset value of their businesses.

Tasman

Group Profile

The Tasman focus group was invited from a cross section of irrigators in the District. This meant that they represented a combination of land use types, water sources and irrigation experience.

Number attending: 9

Farm Type	Number
Dairy	5
Other livestock	1
Crop	1
Horticulture	2
Viticulture	
Lifestyle block	1

* Numbers may not reconcile due to multiple land use.

Water Source.

The majority of attendees (7) were sourcing their water from shallow groundwater. There was 1 river take and 1 person sourcing water from a community scheme that was based on river supply.

Irrigation Experience.

Years of Experience	Number
<5	1
5 – 15	1
16 – 25	0
>25	7

Key Issues.

- Tradability
- reliability of supply (x 3)
- strict consent conditions, lack of flexibility
- consent renewal (x 2)
- “use it or lose it” (x 3)
- over allocation of the resource.

Summary.

The majority of group attendees were familiar with the water issues in the Tasman region through involvement in water user groups for the various water zones identified in the Tasman District. They had a good understanding of existing resource consent conditions, the status of the resource and the future direction of water policy in the District.

The Nature of the Property Right

The Tasman District Council has two operative plans; the first is the Tasman Resource Management Plan with a subsequent notified variation to the plan. The proposed variation has significant changes to the water management regime. This has been brought about by the development of a considerable amount of increased knowledge of the water resources of the District which has highlighted that many of the water zones are over allocated. Therefore there is a need to alter the water allocation and management regime to address the over allocation issue through claw back of existing allocations and the encouragement of water augmentation and efficiency of use options to ease potential pressure on the resource. At the same time there is a desire to protect the security of supply of existing users as much as possible.

Duration

The council is moving to bring all consents into line with common expiry dates on a catchment or water zone basis. This means that consents tend to be given for a 10 to 15 year period. Consent renewal is a controlled activity which means that there is a requirement to grant renewal which is only subject to changes to conditions and discretions in the consent. It is expected that the majority of renewals will bring conditions into line with the proposed allocation regime.

Consents are subject to a “use it or lose it” condition which means that the right can be withdrawn if use cannot be proven over a certain time period.

Flexibility

Consents are tightly specified as to the location and means of use but are not tied to a particular land use.

Exclusivity

As the majority of water zones are over allocated there is a moratorium on further abstractions. The council manages waiting lists for water on a “first in time” basis. Most zones have sharing or rationing regimes that operate at times of triggering of low flow

regimes or sustainable water yields. These sharing regimes offer a common reliability of supply to all users in a catchment at each rationing step.

Quality

Water volumes are allocated on the basis of calculated maximum soil type requirements for the area of land stipulated regardless of land use. This allocation level is based on offering a security of supply whereby a reduction in 35 percent of the allocated amount is expected during a ten-year drought period. Conditions are stated which allows for review of the consent if the allocation is not fully needed or exercised. Consent descriptions are tightly defined and monitored for compliance. Council retains the right to review permits to reflect actual usage.

Transferability

The Council encourages permanent transfer of lease of permits in order to encourage efficiency of use. This is subject to any restrictions that there may be on the allocation limit of a zone.

Divisibility

Consents are not divisible.

Consent Holder Understanding of the Nature of the Property Right.

The attendees at the focus group had a sound knowledge and understanding of the water allocation and management regime in the Tasman District. This was primarily as a result of their involvement in wide scale communication about water resource issues in the District and the formation and involvement in water user groups within each of the allocation zones.

Duration

Most consent holders accepted the need to bring renewal periods into line on a catchment or zone basis. This was driven by the fact that they were confident about the renewal provisions of their consents and the certainty of their ability to renew albeit with revised conditions.

Flexibility

It was generally felt that the tight restrictions around the description of the consent was limiting in terms of farmers ability to manage their consent properly. This was particularly in relation to what was perceived to be a fairly tight compliance monitoring regime. It was also felt that the issue of everyone achieving a maximum allocation of water according to location and soil type had a detrimental impact on the potential efficient use of water and lead to over allocation of the resource.

Exclusivity

Consent holders were relatively comfortable with the exclusivity of their property right because of the moratorium on further allocation of water in most zones and the implementation of common sharing and rationing regimes.

Quality

Generally consent holders were comfortable with the quality of their property right. Concerns were expressed around the issues of the potential claw back provisions in the rules which promoted the “use it or lose it” concept or a review of water allocation to reflect actual usage. It was felt that these conditions promoted inefficient use of water by people who wished to retain their rights. In some instances it was felt that this promoted use of water purely for the purpose of retaining the right and that this practice was impacting on the reliability of supply of other users.

Transferability

It was felt that the conditions around the tradability or transferability of water were limiting in their ability to achieve significant transfer of water. Some members of the group felt very strongly that a water right should be strongly connected to the land itself and that should then go back into the common pool if it was not required. This was particularly in the case of zones where there were significant waiting lists for water.

Divisibility

Divisibility of water consents was not considered to be an issue. In fact the opposite was the case, several of the group members prefer the concept of amalgamation of a number of different take and use rights on a single landholding to allow them the flexibility to take and use water where they required at certain times on their property.

Expectations and Behaviour

Consent holders had a high level of confidence in the security of the property right in water due to the automatic renewal status. Their biggest concern was the reliability of supply of the water as the majority of water sources are over allocated and will come under increased pressure of use which will accelerated the triggering of rationing and sharing regimes.

“reliability is the biggest issue here rather than duration”.

As a result they are adopting conservative farming operations to buffer themselves from reduced reliability of water or examining options to overcome reduced reliability.

“With better reliability I could milk an additional 20 – 30 cows”

“I could put up an additional glasshouse”

“my operation mix means that I can divert water from early apple varieties across to later varieties so the restrictions don’t hurt me”

They are seeking to invest in system improvements that would improve the efficiency of use of their water, including augmentation and damming for water storage. Many of the augmentation options require community schemes which pose the difficulty of achieving collective action and investment. They welcome the District Councils willingness to facilitate community development.

The biggest concern was the impact on property values as the nature of the right changed.

“The biggest decision I have is when is the right time to sell out before my property reduces in value too much”

Generally the behaviour was to work within the system to minimise impacts. Part of that was a healthy involvement in water user groups to help the council achieve their aims of claw back and efficiency of use provisions to bring the allocation regimes back into an equilibrium where rationing is less likely to occur.

However there was divided opinion on the importance of transferability / tradability in helping that aim. Some thought that the water right should be connected to the land and not moved while others saw the merit in transfer to achieve efficiency gains.

Attenuation

It was felt that attenuation pressure would increasingly come from the rapid development of the District creating more demands on the water resources in the future. There was concern that increasing demands from domestic supply would further exacerbate their reliability issues due to priority of domestic use.

Concern was expressed that tight policing of compliance to relatively restrictive right definitions would make the exercise of their right more difficult in the future or even result in loss of water.

The loss of asset value of their businesses was seen to be the greatest impact from further erosion of their property rights in water.

Summary

- Consent holders were well aware of the nature of their property right and potential changes to it.
- The planning regime gives security over duration of the right but considerable uncertainty over reliability of supply.
- Rules and conditions implemented to address over allocation of the resource have the potential to reduce present rights significantly through loss of water.
- Uncertainty over reduced reliability of supply is causing under investment in productive capacity or creating additional investment in mitigation.

- It was expected that any attenuation of their property rights would ultimately be reflected in loss of asset value of their businesses.

Blenheim

Group Profile

The Blenheim focus group was invited from consent holders on the Awatere River these were all surface water takes that are subject to run of river rules.

Number attending: 9

Farm Type	Number
Dairy	0
Other livestock	7
Crop	2
Horticulture	0
Viticulture	6
Lifestyle block	0

* Numbers may not reconcile due to multiple land use.

Water Source.

All irrigators were using the river as a water source with 4 incorporating water storage on farm as part of the system.

Irrigation Experience.

Years of Experience	Number
<5	8
5 – 15	
16 – 25	1
>25	

Key Issues.

- Variability of council decisions.
- Security of right
- resource information

- ability to transfer right
- illegal activity
- compliance conditions.

Summary.

Attendees were dominated by relatively new irrigators who were well aware of the issues around consent conditions and the allocation and planning framework as a result of recent interaction with the Council during the consent application and approval process.

The Nature of the Property Right

The Marlborough District Council has a Proposed Wairau / Awatere Resource Management Plan. This is presently under a review which is expected to be completed in 12 months time. The review is in response to the rapid increase in demand on water resources for abstractive uses which is primarily driven by the rapid expansion of the wine growing industry. In the meantime council staff have had to develop consent conditions that are designed to control the allocation and use of water.

The Council is confident that it has adopted conservative minimum flow regimes on the Awatere River and have allocated water under blocks with different levels of reliability.

Duration

Duration of most consents is 10 years with renewal being a discretionary activity which is treated like a new application. The Council has the right to review consent conditions on an annual basis and invokes a “use it or lose it policy” to prevent hoarding of water rights.

Flexibility

Consents are tightly described in order to calculate the volume of water that can be allocated. This is driven by the land use mix chosen as there are different allocation levels for pastoral, cropping and viticultural allocation. The consent also defines the application system and area to be irrigated. Any alteration to any of the description items requires a new consent application. This means that there is very little flexibility in the consented use.

Exclusivity

Exclusivity is protected by an A, B and C permit system. A and B permits are offered at different levels of reliability with A permits having a higher level of reliability. B permits are not allocated until all A permits are taken up. C permits allow the take of water for out of river storage only. Many of the consent holders have a combination of permits. A permits are fully allocated while B permits are not fully taken up.

Quality

Class A water permits have a degree of reliability that is likely to be restricted on average for only one week every five years. Class B water permits will be fully available 80 percent of the time, partially available 18 percent of the time and completely unavailable

2 percent of the time. This level of reliability is not sufficient for most land uses and therefore class B permits are usually used in conjunction with class C permits and storage of water in on farm dams.

All permit holders share the percentage reduction in water availability equally.

Consents can be reviewed as a result of a change in the water management plan or on an annual basis as a result of monitoring and compliance reviews.

Transferability

Transfer of a water permit is a discretionary activity and must be transferred within the same aquifer or catchment area.

Divisibility

Consents are not divisible.

Consent Holder Understanding of the Nature of the Property Right.

Duration

Consent holders expressed concern about the ten-year duration of consents. Most irrigators investing large sums of money in viticultural development, which is dependant on irrigation water, will not have paid back their investment within the lifetime of the consent. Loss of the consent, or diminution of the water right, could have significant impacts on the income streams and capital value of their investment.

“I am concerned about the ten-year consent period and the impact on land values in the future if it is lost.”

However the majority of consent holders were comfortable that consent renewal will be a reasonably straightforward process if they have conformed to the conditions of the consent. This is partly based on the understanding that the resource has been conservatively managed and is not over allocated. Therefore there should be no need for claw back or reductions in the volume of water allocated in the future.

Flexibility

Concerns were expressed about the lack of flexibility of the water right as a result of the tight specifications required in terms of crop mix, irrigation system and land area. The major concern was that if any of these were to be changed it would require a new consent application and possibly a change in the volume of water allocated. It was felt that this was too restrictive in terms of irrigators making strategic choices of crop and livestock mixes as well as improvements to the irrigation system.

Exclusivity

Although irrigators were happy with the water management regime in terms of its ability to protect reliability of supply at a known level, there were real concerns about the equity

of the allocation process. The class A permits were obviously a valuable and sought-after item which were fully allocated. However there is no agreed system for reallocating class A permits as they become available. It appears that they are allocated on a first in first served basis at the time when they become available. It was felt that people who had already invested in development and use class B and C permits should have some form of priority in the allocation of class a permits.

Quality

Consent holders were generally comfortable with the quality of the conditions on their consents. This was partly due to the fact that there was a recognition that the allocation regime was relatively conservative and was able to protect reliability of supply within known parameters. This afforded them a level of certainty that they could use to plan their operations and investments around. There was an expectation that the consent conditions were not like to alter very much in the future. In fact expectations were that reliability for B permit holders could possibly improved in the future.

“We have the confidence to carry on investing and diversifying”

Transferability

Although consent holders accepted the value of the ability to transfer water there was a certain level of feeling that because A permits were a scarce resource that they should be offered back into the existing irrigator pool rather than transferred to a new development.

Divisibility

Divisibility did not appear to be an issue of concern.

Expectations and Behaviour

It was interesting that the Awatere irrigators have a strong sense of community which is based around their geographic location around the Awatere River. They saw the river as a community resource (“*our river*”) and as a means for the community to meet its further development. To a certain extent their definition of community was the farming families that had lived there for generations. There was some suspicion of “corporates” that had recently entered the valley and their treatment of the resource as a commercial good with little feel for the local community. This created an interesting conflict between what was best for them as individual business people and what may be best from a community point of view.

There was an expectation that the resource would continue to be managed in a conservative way and that there was a great deal of certainty about their rights to use it. Their investment decisions and property management supported this strong feeling of certainty around the nature of their right.

The major expectation that they were unsure about was the future allocation system of unused or surrendered rights. The hope was that an equitable system which favoured

existing right holders would be put in place but recognised that they may have to take part in competitive behaviour to strengthen their property right. This would mean competing with friends and neighbours which was felt to be an unattractive option.

Attenuation

Confidence in the security of the property right meant that there was very little consideration of the possibility of attenuation of the rights in the future. The possibility considered was that of the potential for other stakeholders having an impact on the flow and allocation regimes as part of the planning process in the future.

Summary

- Consent holders have a high level of understanding of the nature and security of their property right. This was partly brought about by the fact that many were relatively new to irrigation and had recently gone through the consent application or renewal process.
- Irrigators have a high level of confidence in the security and reliability of their property rights and have invested heavily as a result.
- Future expectations were for a strengthening of their property right as a result of improved management of the water allocation regime.

Annex: Non Extractive Stakeholders Focus Group Meeting

Group Profile

The stakeholder groups represented at the meeting were:

- Water Rights Trust
- NZ Salmon Anglers Association (x2)
- Council of Recreational User Groups
- Forest and Bird (x2)
- Various Kayaker/fishing/whitewater rafting/ conservation interests (x1)
- Fish and Game

Apologies were received from kayaking/canoeing interests.

Issues

- Surface water degradation
- Groundwater degradation
- Sufficient quality and quantity for fish and fishing

- Appropriate land use
- Interpretation of laws by councils
- Prioritisation of water for extraction over rights of other users
- Development must be allowed, but the rights of the water body must come first
- Freshwater is a commons
- Overemphasis on use in the RMA as opposed to protection of other values
- Need for greater recognition of in-stream values
- Extraction should be a privilege not a right
- With rights goes responsibility, particularly for compliance
- Current allocation system is a dog's breakfast and not meeting anyone's needs
- Lack of measurement of the resource and its use

Summary

The group was predominantly associated with users, and with fishing interests in particular. However there was significant representation from those with an interest in protection of ecological values specifically, and of all non extractive values in general. The group expressed significant dissatisfaction with the roles of regulatory agencies.

How does the group see its rights in the water resource

The group generally saw itself as having few recognised rights in the resource. While some of the user interests felt that there was adequate protection of ecological interests through the minimum flow regime, most felt that this aspect was protected at an absolute minimum and that scientific evidence, particularly new developments, were not well reflected in flow regimes. The interests of amenity users of the resource were considered to have a very low level of rights accorded under the existing regime. This was expressed in two ways:

- The first was that the other users of the resource were in fact the “existing users”, and subsequent users were encroaching on their rights. This encroachment or attenuation of their rights was occurring without any compensation.
- The second stream saw that there was a common property right in the resource, and that the common right should have at least equal, if not higher priority.

There was a strong feeling in the group that they did have a right in the resource but that this right was not currently reflected in allocation. One member noted that:

“..rather than our right being recognised by councils, we have to go out and fight for them at every step of the way..”

How does the group view the rights of extractors?

The group generally saw the extractors as having very strong rights under the current allocation regime. As an example a member cited the fact that at any of the resource consent renewal hearings they had attended, all the consents had been renewed. The Act is seen to be applied as if the consents are automatically renewable. Several of the group considered that extractors saw themselves as having the primary right to the resource.

Specific concerns with extractors' rights were issues such as overwatering and wastage, particularly the issue of irrigating during NW winds, and allowing irrigation water to overflow the races and run across the roads as evidence of wastage.

However most of the discussion in this section focused on problems with information and allocation regimes. There was seen to be a lack of adequate planning which takes into account the non-extractive stakeholder rights. Consent authorities were seen as continuing to grant consents despite not knowing the effects, and not adopting the precautionary principle. The group generally considered that the authorities should be much more conservative in their approach until the effects of the abstractions were better known.

There was considerable discussion about the inadequacy of the planning regimes in the councils. Granting of consents in the absence of a catchment or aquifer plan was affecting the rights of other users and the ecological value of the resources. Furthermore catchment planning was seen as a way of providing for the existing users or common property in the resource, which would mean that each individual consent did not have to be contested to protect those rights.

Issues Surrounding the Nature of the property right

This group was not questioned regarding all the characteristics of property rights. The duration and certainty, flexibility, and transferability characteristics were discussed.

Duration and Certainty

There were mixed views on this. In general there was opposition to an increase in duration and certainty under current planning regimes and with current scientific understanding of the resource. There was a general feeling that consents should be limited to 10 years, and scepticism of the ECan regime of 35 year consents with potential for change at any time, because in practice the changes were not being made to the consent conditions.

However when questioned further in a hypothetical situation where these elements could be eliminated, there was a split in the group. Some were comfortable with this provided that the resource could be well specified and the right was described as a proportion of an allocated block, which could itself change. However even under these circumstances the appropriate term was seen as only up to 35 years because of scientific uncertainty and

changes in climate etc. Most remained sceptical that the system would work because of scientific uncertainty.

Others were philosophically opposed to an increase in security for the consent holders – in terms of duration or certainty. They saw political dangers in this because it would consolidate extractors' rights, and this would lead to greater leverage over the allocation process. Ultimately this would lead to adverse results for the common property rights in the resource.

One participant recognised the need for sufficient certainty to allow the consent holder to recover the investment in obtaining the consent and setting up the irrigation system, but felt that 10 years should be sufficient for this.

Flexibility

The stakeholders were tested about this by being asked what concerns they would have if the water was able to be put to any purpose the consent holder saw fit. This again saw a diversity of views in the group. Some were very concerned about this concept, because it was seen as allowing intensification of land use and inefficient use of the water. Even under a scenario where the land use was controlled by some other means, these people remained concerned – primarily because of scepticism that land use would be adequately controlled under other mechanisms such as district plans. There was a comment that while the idea was nice, the downside risk was too great and the pre-cautionary principle should apply.

An alternate point of view was put though that essentially the in stream users had no interest in what happened to the water once it had been abstracted. This person considered that in fact increases in efficiency were actually adversely affecting their interests, because this meant that more land was able to be irrigated with the available resource leading to an increase area under intensive agriculture and ultimately adverse impacts on their interest in water resources. The group discussed this point of view, and most were in agreement. The group decided that increases in efficiency should result in water being returned to the river or aquifer allocation rather than resulting in an increased area being irrigated.

Transferability

Again there were a diversity of views on this. These could be characterised as:

- No objection – see this as a way for the water to flow to the highest value use, and provided the outcomes are protected in terms of the abstracted and receiving resources this system would work well.
- Qualified support – would see that this system could produce some benefits, but would be opposed to people getting the resource for free initially, and that if this were introduced some payment would have to be made for the consent – either initially or as an ongoing rental.

- Concerns about the adverse consequences of a market system. Comparisons were made with the electricity markets, which weren't seen as benefiting the consumers, and with the fishery markets, which saw an aggregation of resources. Comments about "water barons" and people buying water and leasing it out, thereby making a living without doing anything. There were also concerns that the transfer of water would undermine land use rules.
- Philosophical opposition to the water being owned. This point of view was that the water is a common resource, incapable of ownership. Any water that is not needed by the consent holder should be returned to the regulatory authority.

Other issues

There was concern expressed by the group about the growing community divisions that were being brought about by the adversarial system that is currently operating for management of the water resource. They see that central government should be stepping in and having a greater say in the management of the resource and resolving issues. It was noted that departments which could be doing this are probably constrained from doing so because of their political masters.

It was noted that rights in the resource come from money. The extractors can afford to hire lawyers and experts to make their case and contest adverse decisions because they make money from the resource. It is very difficult for the other stakeholders to effectively represent the opposite point of view. This is money = rights approach is seen as occurring because the rules for managing the resources are not clear.

An increase in security must come with payment for the resource.

Summary

- There was a clear consensus that the stakeholders had a right in the resource, which was expressed in different ways. All felt that this right was not being adequately recognised in the allocation process.
- There was a clear consensus that the extractors have a very secure property right, and in fact their rights were too secure given the condition and understanding of the resources.
- There was a clear consensus that the main property rights issues were inadequate understanding of the resources, inadequate planning including allowing for the common property/existing use rights, and continued allocation for abstraction in the absence of that understanding and planning.
- There was a clear consensus that under current conditions property rights for abstractors should not be made more secure. There was a divergence of views as

to whether, in an ideal world, property rights for abstractors could be increased. Concerns about this included the political consequences of entrenching these rights and increasing the political leverage of abstractors, concerns about the practical consequences, and philosophical objections to the resource being owned.

Annex 2: Interviews with other users

Domestic

One interview was undertaken. The major issues were associated with long term planning for the resource.

Security was considered reasonably high. Consent terms were long, and expectation of renewal was high. Renewals have been completed in the last five years for all consents held. Consent conditions are able to be changed, but the consent holder is not significantly concerned about this because of the purpose to which the water will be put and therefore priority accorded to them for municipal supply purposes.

There was considerable flexibility with the consents, with the definition of the use being “municipal supply” which covers a variety of potential uses. The supply authority also has considerable potential to move water takes between different wells. In practice no overall cap has been placed on abstraction from their wells.

Exclusivity and divisibility are not significant issues for the domestic supply authority. The major issues for them are the quality of the title. In particular they were concerned about the potential for the regulatory authority to continue to issue consents from the resource to the point where reliability for them was compromised. They consider that the reliability required for their supply is much higher than that required for other uses such as industrial or irrigation supply. If continued allocation continues they will be forced to seek supplies from other resources, at considerably higher expense.

The consent holder was also concerned about a lack of long term planning by the consent authority, which made it hard for them in turn to undertake their long term strategic planning. The quality of the title was therefore seen as low because of the uncertainty surrounding future value of the consent.

The consent holder regarded the consent as essentially non-transferable. They see considerable value in making the consents transferable, since this would give greater flexibility in managing future trade-off with other extractors in aquifers of importance.

In summary the consent holder had a very thorough understanding of the rights granted by the consent, and had been heavily involved in the planning process with the regulatory agency. The two items of interest were again the attenuation of the consent in quality terms as a result of a lack of planning and long term goals, which was the primary concern of the consent holder, and the perception of consents being non-transferable despite perceiving this as a desirable characteristic.

Industrial Take 1

This holder operates a large factory in a rural area. It has consents for its factory operations and for land associated with disposal of effluent (5 in total).

In general the holder regards the consents as reasonably secure. They have been involved in the renewal process, and whilst it is regarded as time consuming and bureaucratic, it is not regarded as a major obstacle. There are issues associated with renewal which have the potential to impact on the business, and they are aware of the potential for changes to the conditions of the consent, but they regard these as business risks which are manageable. In practical terms they regard themselves as maintaining a watching brief over their consents.

They are aware of the duration of their consents, and while they are fairly long term they regard the potential for changes as a greater threat. The duration of the consent is longer than the time horizon for their investment, so it is not a major issue.

The quality of their property right is of more concern, particularly the potential for changes and review. They do not see a further threat from further abstraction from their resource because of specific geographical features, but they have noticed that nearby extraction has impacted on their wells causing them to install a larger pump. They do however see a greater threat from pressure groups with a narrow focus forcing changes through the political process. Their comment was that 5 years ago they would have felt very secure in their consent, but the politics of water appears to have changed and now they feel much more nervous about their consents. It is a factor in further investment, but not a constraint at present.

This party was aware that consents are transferable on notification, but had not had a need to do so for their main plant. They had experienced an issue with transfer elsewhere, but this was able to be resolved through the creation of different company structures.

Their consents are very specific to use, but this is not an issue for them because there are no other contemplated uses at present. They have built a certain amount of flexibility in the system by holding consents for more than they currently use, with the excess allowing for future plant expansion.

Divisibility and exclusivity were not discussed with this party as they were not likely to be relevant issues.

In general this party felt reasonably secure with their consents, but had some concerns about developments in the future. They noted that their size made them somewhat more secure, since the consequences of adversely altering their consents would be very significant, and they felt that they were likely to be accorded priority to water as a result. It should also be noted that water in this operation was very important, but the scale of costs associated with issues such as changing their wells or pumps to accommodate changes in the accessibility of water are small in relation to other costs that the operation

faces, and minor changes in their property right are therefore much less of an issue than for a smaller operation.

Industrial Take 2

This take is a large urban industrial take, with water used directly in its operations as well as general purpose water around the site. The take is from 5 wells between 70 and 130m. The site also has some municipal water supply, but this is being phased out as plumbing is replaced. The direct take offers considerably lower costs of operation than would be the case for all municipal take.

The takes are for a 35 year period, and have recently been renewed. The consent period is long enough, although the operation hopes to be on the site for longer than that period, as it has been in operation at the site for over a century. The holder expects that as long as it meets the conditions of its consent the permit will be renewed.

The holder understands that the consent could be reviewed at any time, but they do not consider this to be highly likely. They generally assume that the water will continue to be available to them under generally similar conditions. They do not see any threats to the quality of their title. While their wells ran a bit dry 10 years ago during a dry period, they have not observed any detrimental effects associated with other wells being located in the general area.

The wells are tested annually, and the holder provides its records of takes to the regulatory authority. Exclusivity and compliance monitoring is not seen as a major issue.

The consent is for a single purpose associated with the holders operations. The holder does not envisage putting the water to any other use, and therefore does not view the conditions as onerous. In general the phrasing is sufficiently broad to cover anything they could envisage doing with the water. The only major consent condition is the cap on take, but this is sufficient for current and future operations, so is not a major issue for the holder.

The holder is not aware of whether the consent can be transferred, but does not envisage this ever happening.

The holder appeared very familiar with the issues surrounding the consent, but problems were not seen as significant and they considered the water right to be very secure. An ongoing investment programme is undertaken at the site, and the consent conditions do not constraint this investment in any way.

Annex: Hydro and Irrigation Scheme Users

Irrigation Company No 1

Background

The company has consents to dam and take with conditions that it maintains prescribed flow regimes according to a regional plan which is an operative planning document. Farmer irrigators must have their own resource consents to take and use water for irrigation whether they be direct from the river or any other ground or surface water source within the catchment. Farmers also own shares in the company that entitle them to use water in the catchment. The dam company does not deliver water to farmers.

Farmer consents are held by individuals or small schemes that have a shared take and distribution scheme. However the river management plan determines two classes of consents. A consents (which are called affiliated consents) are those which are available to people who hold shares in the Irrigation Company only. B class consents are open to those people who do not own company shares.

The company releases water at a rate that matches actual water demand with required river flow regimes. To facilitate this some schemes supplied from the river have to book water use in advance. Any unrequired surplus of inflows can be retained in the dam for future use when inflows are less than requirements on a daily basis.

The flow regime when A shares can be exercised are matched to the flow regime maintained by the dam company hence they are enabled by the dam company's management of in stream flows. B class shares are able to be exercised at a flow regime above that of the A shares. In effect B shares are virtually worthless as the river is managed by the Dam Company to just meet the flow regimes required. Therefore the B class consents can only be exercised at high peak flood flows or times when the dam company is spilling water, these are very rare events.

This structure affords a great deal of flexibility to move or trade the shares within the A class of shares.

Duration

The majority of consents are for a thirty five-year period.

Flexibility

Individual irrigation consents are specified as to the consent class with individual conditions on the flow rate and location of take however they can be easily transferred to another location within the scheme area. The only restriction is that shares cannot be transferred to the area above the dam (this is a scheme imposed restriction).

Exclusivity

It is considered that this is a fully allocated and planned resource with no opportunity for additional takes from the water resource. Therefore consent holders consider that their rights are fully exclusive of other entrants who could impact on the nature of the property right.

Quality

There was a high degree of confidence in the quality of the consents because they are connected to the river management plan. Although this is due to be reviewed in approximately five years time there is an expectation that there will be no change because it is felt that the river management plan is being adequately managed and there are no recognised detrimental environmental results occurring.

Some individual irrigator consents are connected to flow regimes in tributary rivers to the main stem of the river. These are gradually having low flow regimes placed upon them as the planning process is completed. For some irrigators this has had the impact of slightly reducing the reliability of their access to irrigation water. This process is now substantially completed and therefore there is an expectation that there will be no further impact on the quality of the property right.

The only impact on reliability of supply can be caused by insufficient inflows to the dam to allow sufficient storage of water to guarantee the minimum flows in the river.

Transferability

The consents are fully transferable within a trading market set up to handle shares in the irrigation company. Shares have traded for a value of up to \$5000 per share, which gives the right to irrigate four hectares of land.

Divisibility

Share holding is divisible in that share parcels can be split between a number of purchasers at the time of sale.

Summary

- There is a high degree of confidence in the enduring nature of the property right because the consents are tied to a river flow regime which is managed by the parent dam company ensuring compliance with the conditions. There is an expectation that this regime will be continued through the next round of review of the river management plan. The status of the river management plan is a pivotal factor in this confidence.
- The ability to transfer water through trading of company shares has created a strong market for them and further enhanced the value of the property right to the users. This also creates a great degree of flexibility.
- There is no consideration of future attenuation of the right due to an already high allowance for environmental and in stream uses.
- This is a good example of a strong property right. It appears that the ability to collectively manage the combined demands of abstractors and in stream flows

gives a great deal of comfort through its ability to efficiently manage the resource to accommodate actual use requirements with future use requirements. In other words the ability to adapt to actual use on a daily basis rather than peak consented use gives the dam company the opportunity to manage the resource in a very efficient way.

Irrigation Company No 2

Background

The consents to take, divert and use water from a single point on a river are held exclusively by a company. Individual irrigator share holders effectively hold an entitlement to utilise that water under the conditions imposed by the company. The company delivers the water to an off take point on each farm through a canal distribution system.

The consent is conditional on the flow regime in the river as set by the management plan which is an operative plan. This allows a block of class A abstractions which is as yet not fully allocated. Abstraction rates are ramped according to the residual flow in the river.

Duration

The duration of the consent is 35 years.

Flexibility

The consent is tightly specified and connected to the flow regime of the river. The take is described as the peak flow rate requirement which is adjusted according to available flows in the river. There is little or no flexibility due to the nature of the consent.

Exclusivity

As there is unallocated potential take in the allowable abstraction block on the river, there is potential for new abstractors to impact on the availability and reliability of irrigation water to the company. The size of the block was known at the time of the development of the scheme and issuing of the prospectus. Therefore the impact of additional abstractions was known at the time and factored into the reliability estimates of the scheme.

Quality

The quality of the resource was known at the time of scheme development and is not expected to deteriorate. There have been some problems related to the rating curve used on the flow of the river and recalibration of the river profile. This is now being done on a more regular basis to allow some greater consistency and reliability of information about flow rates.

Transferability

Shares in the scheme are transferable on a long or short term basis as long as delivery is possible within the existing delivery infrastructure.

Divisibility

The consent is not divisible.

Summary

- Consent holder knowledge of the nature of the resource was high as a result of the relatively recent application and development process.
- A high degree of certainty was enjoyed because of the connection of the resource to an operative river management plan.
- There was a feeling that there was potential for attenuation of the nature of the right as part of review of the river management plan or a review of environmental outcomes. It was expected that pressures on this would come from angling and in stream users.

Hydro Electricity Generator

Background

The consent holder generates electricity on a major river through a number of dams. The system is effectively a run of river scheme with some storage capacity in one lake at the head of the catchment. The generator is entirely reliant on river flows at their dams for the scale of generation that they can carry out.

Consent renewal to dam and use has just been completed and approved through a tribunal hearing with appeals lodged in the Environment Court by the generator and other objectors to conditions of the decision to grant the consent.

The consent is subject to the policies and objectives of the regional council which has set flow regimes on the river but has not prepared a river management plan. The catchment is considered to be fully allocated in some reaches of the river but not fully allocated above the generators structures.

Duration

The consent has been granted for 35 years.

Flexibility

The consent is tightly specified as to the generators operation with little flexibility other than the operating levels of the storage lake. However there is sufficient flexibility for them to maximise the generation potential subject to the operating levels of the storage lake.

Exclusivity

There is potential for other abstractors to take water above the dams and therefore negatively impact on the generation potential of the structures.

Quality

Doubt remains over the quality of the consent while issues remain around the operating level of the storage lake and the requirement to monitor and possibly mitigate environmental effects that might appear in the future.

Transferability

Consents are not transferable.

Divisibility

Consents are not divisible.

Summary

- The consent holder was under a degree of uncertainty as to the future nature of the consent as a result of the consent renewal process being appealed. This entails considerable expense and risk to the nature of the property right.
- There is an expectation that the right can be further attenuated as a result of further abstractive uses of the water that would impart on the generation capacity of the business with flow on impacts on business profitability.

Annex: Focus Group Plan

TIME	OBJECTIVES	CONTENT/TOPIC	TECHNIQUE	FACILITATOR NOTES
1.00	Welcome Facilitator introductions Background the project Confirm the focus for the discussions	Sue & Stu/Sim introductions Subject matter of the focus groups What MAF Policy wants out of this exercise What we expect out of the discussions Brief – not discussion Focus Group process	Address the whole group Sue – welcome & facilitators role Stu – Background & expectations 1-Govt interest in water 2-group formed to examine policy position 3-Want information Sue – Meeting programme	Refer to prior letters - we're just reinforcing the focus Reassure of anonymity
1.10	Identify who is present and any key issues for them in relation to the focus for the discussions Gather individual information	Participant introductions Background information Chance to write consent details later Burning issues	Participants introduce themselves and answer the following 3 questions – (1) main types of farming/growing activity on your property? (2) type, extent and source of irrigation? (3) do you have <u>one</u> burning issue related to our focus? What is it?	Stu to write individual info Sue to Record issues Separate sheet for “other issues”

TIME	OBJECTIVES	CONTENT/TOPIC	TECHNIQUE	FACILITATOR NOTES
1.20/1.30	<p>Understand participants' current practices/behaviour/decision making</p> <p>Identify participants understanding/beliefs about the nature of their property rights</p>	Participants' current practices and recent experience	<p>Whole group discussion prompted by questions</p> <ol style="list-style-type: none"> 1. what about the consent affects the management of your operation - farm and irrigation? • Keep at higher level <ol style="list-style-type: none"> a. Investment choice & decisions b. Annual farm mgt <p>USE AS PROMPTS</p> <ol style="list-style-type: none"> 2. how flexible is the consent-can you put the water to different uses? 3. what is the duration of the consent-do you see it being renewed at the end of the term? 4. can the terms of the consent be changed –by you or by the regnal council? 5. how secure is your holding of the consent-can it be taken off you? 	Record on flip chart
1.50??	TAKE A BREAK???			
2.00	Participants record their consent information	Individual consents	<p>Irrigators individually: “Please write information about your water resource consent”</p> <ul style="list-style-type: none"> • how flexible is the consent-can you put the water to different uses? • what is the duration of the consent-do you see it being renewed at the end of the term? • can the terms of the consent be changed –by you or by the regnal council? • how secure is your holding of the consent-can it be taken off you? 	Paper and pens for each person

TIME	OBJECTIVES	CONTENT/TOPIC	TECHNIQUE	FACILITATOR NOTES
2.10	Participants discuss and complete irrigation scenarios	Participants solution/outcome	Small group discussion (10 mins) - groups of 3-4 3 questions per group Write response to question/scenario onto flip-chart paper “if you what would you do?” Feedback into whole group (10 mins)	Have butchers paper and felt pens ready
2.40	Summarise and check back Clarify any issues	Review key outputs of discussion	Address whole group with summary – key points recorded Ask for any additions or changes now they’ve been through the whole process	
2.55	Make sure participants know what happens next Availability of report/summary	Overview of process Closure and thanks	Address whole group Short summary of report will be sent out Full report will be available on the MAF website Meeting notes are available to participants on request	
3.00	CLOSE			

Scenario Questions

Group 1

1a: If you were able to do anything you want with the water from your consent, how would this change what you do?

2a: If you had absolute certainty that the consent wasn't going to be changed for as long as you hold it, how would this affect what you do?

3a: If you knew with certainty that the consent was yours forever (like a freehold title) how would this affect what you do?

4a: If the consent could easily be sold, leased or transferred to another party, how would this affect what you do? What about if you could sell or lease part of it if you wanted to?

5a: If you knew that your access to the water wasn't going to be affected by others – such as new users getting consents or illegal takes – how would this affect what you do?

Group 2

1b: If the water right was tied to a single specific use, how would this affect you?

2b: If you knew that there was a high likelihood that the consent could be changed against you at any time, how would this affect what you do?

3b: If you knew that the consent was yours for only the next 10 years and then would go up for grabs by anyone, how would this affect what you do?

4b: If the consent could not be transferred to anyone else other than on your property, how would this affect what you do? What about if it could not be transferred when the property was sold?

5b: If you knew that your access to the water could be affected by new users or illegal takes, how would this affect what you do?