Opportunities for separating the take and use of water in planning frameworks and resource consents

A Report for the Sustainable Water Programme of Action

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April 2007

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Executive Summary

This report presents options for the separation ("unbundling") of the *take* and *use* components of resource consents for water allocation. Unbundling is recommended as part of a strategy to enable better management of the impacts of water use and to improve the economic efficiency of water allocation by enhancing the transferability of water allocations. While irrigation uses of water comprise about 77% of total water allocated in New Zealand, and hence are where most of the benefits of unbundling would be realised, unbundling of water permits would improve the management of all types of water use.

Water permits in New Zealand and Australia

Of five New Zealand regional authorities sampled, all issue combined consents for *take* and *use* of water. The degree to which the effects of *use* are actually managed varies considerably, as does the format of consents. Nonetheless, in considering a selection of permits from the five councils, we were able to identify for both surface water consents and groundwater consents which terms and conditions related to the water *take* and which related to water *use* or, conversely, which related to site-specific effects of *take* and *use*. Council staff consulted during the course of the investigation did not anticipate any legal obstacles to separating a water permit into two separate permits or reconfiguring a consent to distinguish between the two different components within a single consent.

The unbundling of permits to *take* and *use* water can improve the management of the effects of water use, while enhancing the transferability of permits to take water and thereby creating more flexibility for users to apply water to its highest value use. Unbundling enables water managers to match instruments with objectives, giving them the right tools to achieve the community's desired outcomes and lowering users' transaction costs of transfers.

The process of unbundling water permits is well underway in Australia, although it is being done somewhat differently in each state. In South Australia, water permits are being unbundled into as many as five separate components. The key lesson to be learned from Australia is that transferability is best catered for by making the water allocation (i.e. the *take* component of a water permit) as simple as possible, and addressing site-specific issues separately. Other important lessons are that unbundling is better done before a crisis occurs rather than after; how it is done depends on the nature of the water resource, the pressures it is under, and the pre-existing management regime; and unbundling often needs to be driven by central government to overcome local inertia, provide consistency and maximise the benefits.

Unbundling "take" and "use" in New Zealand water permits

How unbundling is achieved in New Zealand depends in part on the interpretation of the meaning of water "*use*" in s14 of the RMA. We are not aware of any RMA case law on this point, and interpretations of some regional councils are different than what we believe was originally meant by "*use*" in the Water and Soil Conservation Act. The meaning of "*use*" should be clarified to avoid legal uncertainty and challenge if the

Government intends to promote unbundling into water *take* permits and water *use* permits.

Environment Waikato has taken some significant steps towards separating the authorisations to *take* and *use* of water in its regional plan variation on water allocation (EW 2006a), although some issues remain including those just cited regarding site-specific conditions of a water *take* permit.

Separating authorisation to *take* from the authorisation to *use* water will go some of the way to achieve the objectives of unbundling. Such an unbundling would improve management of water *use* and transferability of consents to some extent, but would leave some barriers in place. In particular, consent conditions intended to address site-specific conditions of the taking of water would remain on the *take* portion of the permit, meaning that transfers may need to remain a controlled or discretionary activity to ensure that appropriate conditions could be applied at the new site.

Hence, the objectives would be better achieved if permits to *take* and *use* water were separated into a water *take* permit and a *site* permit. This might require an amendment to the RMA to enable site-specific effects of taking water to be managed with the effects of water use.

The differences between the two approaches (*Take* & *Use* vs. *Take* & Site) are shown in Table ES on the following page. Although the difference appears relatively small, the consequences would be significant in terms of realising the objectives of unbundling.

(continued on next page)

Table ES. Unbundling of water permit conditions into Take & Use vs. Take & Site.

Provision or condition to be included in water permit or permitted activity rule	Take & Use	Take & Site
1. Quantum of water the holder is authorised to take	Take	Take
2. Resource or water management zone	Take	Take
3. Required return flows (if any) and net allocation	Take	Take
4. Restrictions under low flows/levels of the water resource	Take	Take
5. Metering, monitoring and reporting requirements	Take	Take
6. Administrative and other charges	Take	Take
7. Review conditions for take permit	Take	Take
8. Expiry date for take permit	Take	Take
9. Location of the take	Take	Site
10. Screening and related requirements for the intake structure	Take	Site
11. Restrictions to limit drawdown effects on nearby properties, streams and connected groundwater resources	Take	Site
12. Type of use	Use	Site
13. Conditions on use of water to avoid, remedy or mitigate the adverse effects of use on water quality, e.g. rate or timing of water use	Use	Site
14. Monitoring and reporting (if any) of water use	Use	Site
15. Other conditions re use, e.g. efficient use of water	Use	Site
16. Administrative charges (if different than for take permit)	Use	Site
17. Review conditions for use permit (if different than for take permit)	Use	Site
18. Expiry date for use permit (if different than for take permit)	Use	Site

Policies to implement unbundling

The government could advance the process of unbundling through a national policy statement (NPS), amendments to the RMA, guidance for regional councils regarding regional plans and permits, or a combination of all three. We recommend using an NPS to provide the policy framework for regional councils to insert in their regional plans and amending the RMA to provide the appropriate legal instruments (e.g. a *site* permit) and remove any legal uncertainty. The Government should also provide model plan provisions and other guidance to regional councils to assist implementation. This approach is consistent with the intended structure of policy statements and regional plans and provides for the likelihood of future refinements to the policy framework. It is also consistent with the approach adopted in Australia.

The NPS should be quite specific about the wording to be included in regional plans in order to minimise the costs, delays and variable outcomes that would otherwise arise from going through a submission, hearings and appeal process in each of New Zealand's sixteen regional authorities.

Two main policies need to be established in regional plans:

1. Councils should expressly authorise *use* of water via either resource consents or regional rules; where such authorisation is included in a resource consent that also authorises the person to take or divert water, the separate authorisations and associated conditions shall be clearly distinguished. The policy should then state what matters would be included in a water *take* permit and what matters would be addressed in the *use* permit, as outlined in sections 7.1.1 and 7.1.3 (or *take* permit and *site* permit, if the approach in 7.4 is adopted). This policy should also state how the term "*use*" of water is meant to be interpreted; an RMA amendment might be required, especially if permits are to be unbundled into *take* permits and *site* permits.

2. If permits have been unbundled into *take* and *use* components, transfers of surface water *take* permits to a downstream location should be a controlled activity subject to the council ensuring there are appropriate conditions to manage site-specific effects of take. Alternatively, if water permits are unbundled into *take* and *site* permits, downstream transfers of a surface water *take* permit should be a permitted activity subject to the transferor notifying the council prior to the transfer taking effect, and provided that the transferee has an existing authorisation to *use* water.

Transfers of permits involving return flows should remain controlled unless regional plans specify how return flows are accounted for. Transfers of consents that originated from "existing rights" (RMA s386) and "mining privileges" (RMA s413) should also remain controlled, as some are quite broad and non-specific.

Councils should permit down-gradient transfers of groundwater takes, subject to regional plan provisions delineating groundwater resources, management zones and gradients so that users would know whether a transfer is permitted or requires application to the council under s136. Councils should also specify zones within which there are no adverse effects of upstream transfer, e.g. within the catchment of the same hydro lake on a river with several dams.

Permits to dam or divert water are currently not transferable under s136 of the RMA, but in principle a water allocation could be transferred between a permit to dam or divert and a permit to *take*, once appropriate rules and protocols are developed. Dams and diversions typically do not consume water, but they can change the timing and/or location of its availability to the detriment of other users, creating the potential for bargaining to find mutually beneficial changes to the storage, release or diversion regime. For now, these matters can be addressed through civil arrangements between the respective parties, although this can have high transaction costs. If permits to dam and divert were unbundled into water *takes* (allocations) and *site* permits, then s136 could be amended to allow transfers of water allocation between such permits.

Further work is required to develop transfer protocols for such situations, which could then be implemented via an NPS or directly into regional plans for specific catchments. Even without an amendment to s136, once protocols are developed an NPS or regional plan could provide guidance on how councils would process any applications to amend consents to dam or divert for the purpose of transferring water allocation.

Administration and transitional issues

Initially, unbundling of *take* and *use* would only occur for new consents, and when a consent holder wishes to transfer some or all of the *take* component of consent. Eventually, all consents would be in the new format once existing consents expire. Given that until recently some permits to *take* and *use* water were still being issued for 35 years, there would be benefit in setting a target date (e.g. 2015) for councils to convert all consents to the unbundled format. Alternatively, adopting a staged approach or one in which unbundling would be done when a water resource reaches, say, 70% of its allocation limit might allow the transition to be managed better.

Councils could choose to issue two separate consents or to have just one consent with *Take* and *Use/Site* components clearly distinguished. Depending on how they decided to implement the unbundling, councils might need to adjust their consents databases to accommodate the new format. There would be benefit in councils working together, with support from central government, to determine the best way to manage this.

Having two consents would probably give rise to two administrative charges as opposed to one charge if the consent remains a combined permit (with distinct components). Two separate charges might or might not be appropriate, as different issues are being managed by the separate consents, but could be unpopular with users. We recommend leaving within the discretion of councils whether to combine consents, and how much to charge, subject to public submissions via the Annual Plan process.

Councils need to identify water resources where enhanced transferability is not appropriate due to over-allocation and/or lack of robust environmental flow regimes. Depending on how the Government decides to implement policies, this could be in a Schedule to an NPS or simply in regional plans.

Recommendations

To enhance the transferability of permits to take water and improve the management of the effects of water use, the New Zealand government should take steps to advance the unbundling of water permits into their *take* and *use* (or *take* and *site*) components. This would create more flexibility for users to apply water to its highest value use and thereby increase economic returns while improving the management of any adverse effects of water use. There are various issues regarding how to implement unbundling.

"Take and use" vs. "take and site"

First, a decision is required whether permits will be defined on the basis of *take* and *use* or *take* and *site*. *Take* and *use* is more consistent with existing legislation, although some clarification of "use" might still be required. More significantly, unbundling into *take* and *use* will have only limited benefits for the transferability of *take* permits. Unbundling

to *take* and *site* components, on the other hand, will require a change in legislation but is likely to achieve more fully the policy objectives outlined above.

Choice of policy instrument to implement unbundling

A second issue is the choice of instrument through which to implement a policy of unbundling water permits: via a National Policy Statement (with either specific or general wording), via amendment to the RMA, via regional plans with guidance from central government, or via a combination of these. The details of these options are described in section 8 of this report. In sum, the key elements and advantages of the options are as follows:

(a) National policy statement (NPS)

An NPS would direct regional councils to insert policies in their regional plans. The first policy would require councils to distinguish between the *take* and *use* components of water permits, starting with new permits and any that are being transferred. The second policy would state that certain transfers of *take* permits would be a controlled activity (if unbundled into *take* and *use* components). Transfers could be a permitted activity if permits were unbundled into *take* and *site* components, although the *take* and *site* option would require a legislative amendment. Any provision making transfers permitted would explicitly exclude catchments that are over-allocated or do not have adequate environmental flow provisions.

The NPS could be quite specific about the wording to be inserted, or quite general. The more specific the NPS, the less legal risk is transferred to regional councils, the shorter the process of implementation due to the Schedule 1 plan review process in each region, and the less the regional variation of the outcome. On the other hand, if regional discretion and variability is seen as desirable, a more general NPS would enable this, although this entails additional costs because of the Schedule 1 process that would be repeated in each region.

(b) RMA amendment

Alternatively, unbundling could be implemented via amendment to the RMA, with clauses to implement the policies outlined above. This could entail a coherent set of new statutory provisions, e.g. based on unbundling into *take* and *site* components and possibly enabling further unbundling of other components as and where future circumstances warrant, e.g. unbundling seasonal allocation from the longer-term allocation to facilitate "leasing" water for one season. Implementation involving an RMA amendment would remove any legal risk that would otherwise arise with an NPS.

The disadvantage of using an RMA amendment to implement policy is that, compared to an NPS, legislation is much harder to refine as implementation reveals new issues and challenges.

(c) Regional plans

Unbundling could also be left to regional councils to implement via changes to their regional plans, much as Environment Waikato is doing with its Variation 6 to the Proposed Waikato Regional Plan. Central government could assist the process by producing guidelines and model plan provisions, but these would be optional and councils would still bear any consequent legal risk arising from interpretation of "*use*".

The pros and cons of this option are essentially the reverse of the pros and cons for the NPS option outlined above. As with the NPS, regional plans would only be able to unbundle into *take* and *use* unless an RMA amendment authorised *site* permits.

(d) Combination of NPS, RMA amendment and regional plans

The fact that each of the above approaches has advantages and disadvantages suggests that unbundling might be most effectively implemented using a combined approach. This could consist of the following:

- An RMA amendment to (i) authorise *site* permits and further unbundling where appropriate, and (ii) to remove the ability to transfer *use* permits, and possibly remove all references to water permits to "*use*" water;

- An NPS to direct councils to insert in their regional plans specific wording of policies regarding unbundling and transferability of *take* permits;

- Regional plan provisions to (i) identify catchments that are over-allocated or do not have adequate environmental flow provisions and therefore would be excluded from any policies that permit transfers of water *take* permits and (ii) identify zones within which transfers of groundwater permits could be permitted or controlled activities, and zones within which upstream transfers of surface *takes* could be permitted or controlled.

This approach has the advantage of legal certainty, ability to refine the national policy framework over time, and regional flexibility to determine the catchments in which the transfer policy would apply. It keeps Schedule 1 costs to a minimum and ensures national consistency, although this latter point might be seen by some as a disadvantage rather than an advantage.

Permits to dam and divert water

Permits to dam or divert water are currently not transferable from site to site under s136 of the RMA, but in principle these could also be unbundled into water *take* and *site* components, with the water take permit also transferable once appropriate rules and protocols are developed.

The Ministry for the Environment and regional councils could initiate work to develop protocols for unbundling permits to dam or divert water. In the meantime, any transfers between such permits and those holding permits to take water, e.g. for irrigation or industrial purposes, can remain a matter for civil arrangements and, where necessary, amendment of consents by regional councils.

1. Background

As part of its Sustainable Water Programme of Action, the New Zealand Government is exploring ways to improve the efficiency of water use, as a means of increasing the benefits New Zealand can obtain from water available for abstraction. It is also seeking to reduce the adverse environmental effects, particularly on water quality, of the use of water in New Zealand. Enhancing the transferability of water *take* consents can help to make water available to the highest value use, and allow re-allocation when water resources become fully allocated. Clearer consideration and specification of the effects of uses of water, particularly for irrigation, is also needed.

The Ministry for the Environment has requested a report on separating the *take* and *use* components of water allocation and an assessment of whether this will enhance transferability of consents while enabling better management of the impacts of water use. The Ministry also wants an analysis of the implications of such unbundling on other aspects of water management, including applicability and implementation issues for regional councils.

There is significant variation across regional councils in the degree of pressure on water resources, and therefore in the demand for transfers of water permits (Hill Young Cooper 2006; Robb et al., 2001). Likewise the severity of impacts of water *use* varies regionally but even where the effects are serious, few councils have sought to control them through rules and consent requirements.

Where there are significant impacts of water *take* or *use*, and demand for water transfers, the need to address site-specific issues of water use can be a barrier to the transfer of water permits. As demand for water grows, this impediment to transfers will impose increasing costs on society in terms of foregone benefits from more efficient water use – rigidity in the water allocation system inhibits re-allocation to uses with higher economic returns. Likewise, the lack of action to address adequately the impacts of water use, along with effects of land use generally, is imposing increasing costs on society as intensification causes deterioration of surface water bodies.

This situation affects mainly water permits for irrigation, which in 2000 accounted for about 77% of all water allocated in New Zealand (Ministry for the Environment, 2000), however it affects all types of water use regulated through water permits. The issue arises because under most regional plans (and council procedures), the conditions to manage the effects of the ***use*** of water are part of the consent to ***take*** water. A transfer of a consent to a new site involves a transfer of conditions as well, so an assessment is required as to whether the conditions are appropriate for the new site.

Environment Waikato (2006) has notified a plan variation that would separate these two aspects of water management, so permission to *take* does not imply permission to *use* water; permission to *use* the water would derive from permitted activity rules for the use of water in the regional plan or need to be obtained via a separate consent.

Australia, via its National Water Initiative, is part-way through a process of separating or "unbundling" water rights to improve management of its scarce water resources. Australia has considerable experience with excess demand for water and with trading of water permits, but trade in permanent entitlements remains small, at less than 1% of diversions in 2001-02, constrained at least in part by administrative impediments designed to manage third-party effects

(Heaney et al 2006). Young and McColl (2003) argue that reform of Australia's water management framework should include a separation of "water use licenses" from "water access entitlements". This proposition is now being implemented across the Australian states. New Zealand can learn from the Australian experience, even though the statutory frameworks differ between the two countries.

2. Theoretical Basis for Design of a Water Allocation System

High level objectives of any water allocation system encompass equity (fairness of allocations), efficiency (maximising economic benefit) and management of externalities (limiting the effects of resource use on those not involved in the activity, and on the wider environment).

Using these policy objectives, Young and McColl (2005) have developed design principles for robust instruments of water resource management, at both individual user and system-wide levels, as represented in Figure 1:

Scale	Policy Objective		
	Distributive Equity	***Economic Efficiency***	***Externalities***
Individual	Entitlement	Access Allocations	Use licences
Total System	Water allocation plans	Trading Protocols	Catchment Plans

Figure 1. Generalised framework for selecting instruments for water resource management (McColl and Young 2005).

This design is based on two principles and a theorem:

- *Tinbergen Principle*: In macro-economic policy, Tinbergen asserts that there must be as many instruments of control as there are dimensions to the problem (policy objectives in Table 1)
- *Mundell's Assignment Principle*: For outcomes to remain optimal through time, instruments need to be paired with the objectives on which they have most influence.
- *Coase Theorem*: A property rights system designed with low transaction costs will achieve an efficient outcome irrespective of the initial distribution of allocations.

The focus of our study is the specification of individual water permits, which in most regional council jurisdictions currently combine entitlement and access allocations (the "*take*" component) with the use licence (the "*use*" component).

The formulation in Figure 1 supports the unbundling of these components so that the objectives of economic efficiency and management of externalities in water allocation can be addressed separately, as suggested by the Tinbergen and Assignment principles. As an example, Young and MacDonald (2003) describe how this separation could be implemented by issuing shares for groundwater allocations in South Australia.

3. Statutory framework under the Resource Management Act

3.1. Regulation of Water Take and Use under the RMA

Section 14 of the RMA provides that no person may take, use, dam or divert water unless this is authorised by a resource consent (water permit, in this case) or a rule in a regional plan. Aside from permitted activity rules allowing specified small-scale taking, use, damming or diverting of water, the only situations where a water permit is not required are where the water is taken for fire fighting (s14(3)e), or for animal drinking water or individual domestic uses when there is no adverse effect caused by the take (s14(3)b). The s14(3)(b) exceptions can be nullified by a regional plan that states that such *takes* have the potential to cause adverse effects if not controlled, thereby justifying a requirement for a resource consent. Environment Waikato's proposed variation to the Waikato Regional Plan takes this approach for certain catchments (see section 6 of this report).

3.2. Origin of *Take* and *Use* Authorisations

The provisions of s14 of the RMA originated from s21(3) of the 1967 Water and Soil Conservation Act (WSCA) under which rights could be granted to "dam, divert, take or use natural water". The 1967 WSCA vested the right to "use" water with the Crown, and this is continued under s354(1) of the RMA. The WSCA replaced common law rights to the use of water with a regulatory structure for the administration and control of water, under the jurisdiction of the catchment and regional water boards, with this jurisdiction transferred in 1989 to regional and unitary authorities.

In relation to the taking and use of water, the RMA has changed the tests applied by regional councils in deciding whether a water permit may be granted. Under WSCA, applicants were required to demonstrate "beneficial use" of the water applied for, and the loss caused by the taking of the water was weighed up against the benefit likely to accrue from its use (Berry and Matheson in Nolan (ed), 2005). Under s88 of the RMA, applicants provide an Assessment of Effects of the proposed water *take* and/or *use*, taking into account any matters and restrictions imposed through the council's regional plan covering water allocation.

The "beneficial use" test from WSCA has been replaced by the RMA's overarching purpose under s5: to promote the sustainable management of natural and physical resources, taking into account ecological, social, economic and cultural considerations. In the context of water *take* and *use*, this requires consideration of the needs of future generations; the safeguarding of the life-supporting capacity of waters and associated ecosystems; and avoiding, remedying or mitigating adverse effects of that *taking* or *use* on the environment.

A key point here is that adverse effects of *taking* water are quite distinct from those caused by *using* water, as recognised by the RMA distinction between *take* and *use* (along with dam and divert). Thus, satisfying s5 requires separate consideration of these effects.

We suspect that the intention of including "use" in WSCA as an activity relating to water was to enable control of uses such as extraction of energy from rivers through installation of structures in the water column. To our knowledge, there have been few water rights or water permits issued by any council for "use" of water in this sense; those activities are regulated under RMA through land use controls on the beds and banks of rivers, or through water permits to dam or divert. The current interpretation of "use" of water under the RMA relates more to the effects of discharging or otherwise making use of water once taken. At least some of these effects could also potentially

be addressed through discharge rules or land use controls for the purpose of managing water quality or quantity.

3.3. Addressing Effects of *Take* and *Use* in Regional Plans

Most regional councils now have operative regional plans containing objectives, policies and rules relating to water allocation. In the regional planning jurisdiction, activities such as water *taking* and *use* require a water permit unless described as permitted activities in a regional plan. This jurisdiction contrasts with the district planning jurisdiction, where the legal presumption is that you can carry out land use activities unless explicitly proscribed in the plan (see e.g. Richmond *et al* 2004).

It is only in recent generations of water allocation regional plans that some regional councils have begun to address more thoroughly and explicitly the effects of uses of water as distinct from those of taking water. However, some effects of use such as the leaching into groundwater of nutrients and pathogens from irrigation are still not adequately controlled in most regional plans, whether they are plans controlling water use or land use.

Examples of the effects of taking water that should be addressed in regional plans include:

- the cumulative take in relation to an allocatable flow,
- proximity effects on neighbouring takes,
- reduction in flow available for diluting contaminant discharges, and
- risks of seawater intrusion or breaches of environmental flow or level regimes, e.g. for nearby small water bodies.

Note, however, that some of these effects are site-specific (effects on neighbours, seawater intrusion risk, and flows and levels of nearby small water bodies); as proposed later, we consider these externalities are therefore best addressed as part of a "site consent" as distinct from the cumulative effects of all *takes* in relation to the allocatable flow.

3.4. Transfers of Water Permits to *Take* or *Use* Water

One of the potential benefits of unbundling the *take* and *use* components of water permits is to simplify and speed up the administration of transfers of water permits under s136. This separation would more explicitly enable water permits for taking water to be easily transferred to a different location. This would allow water to be made available to economically higher value uses through the functioning of the market, rather than through regional council decision. It would be particularly beneficial for fully allocated water resources where re-allocation is currently nearly impossible.

There are however some limits on site to site transfers of water permits under s136 of the RMA. All or part of a water permit for taking or using water may be transferred from one site to another pursuant to s136(2)b, but not permits for damming or diverting water. Transitional provisions in Part 15 of the RMA also affect the status and transferability of some classes of water rights granted originally under WSCA and in Otago, mining privileges.

Water rights granted without expiry dates under WSCA are *existing rights* and deemed under s386 to be water permits, expiring on 1 October 2024. Unlike the former Notices of Existing Use (classified in s386 as *existing authorities* that expired in 2001 and were, under s386(5), unable to

be transferred from site to site), these *existing rights* are potentially transferable from site to site (Berry and Matheson in Nolan (ed), 2005, para 8.30).

Mining privileges deemed under s413 to be water permits may also be transferred from site to site in part or whole subject to the special provisions of s413(9). These special provisions require Council approval for the transfer, and have the effect of turning the transferred permit into a more "normal" water permit subject to reviews of conditions and able to be transferred further. No mining privileges have been transferred from site to site (Graeme Martin, pers comm., NZ Hydrological Society conference 2006) and it may be that these provisions of s413(9) are a disincentive to transfers because they effectively require an application for a new, more restrictive consent.

The point of the preceding discussion about old versus newer water permits is that the formulation of older water permits was often less clear as to the terms and conditions applying to them, and this means that the unbundling of *take* and *use* components in older permits may be best decided on a case-by-case basis by the relevant Council rather than being a potentially simple automated process as for newer water permits.

4. Regional council practice

4.1. Current Practice at Five Councils

To ascertain how readily existing water authorisations could be separated into *take* and *use* components, we reviewed selected water permits and regional plan provisions for five regional and unitary councils:

- Environment Waikato (EW)
- Hawkes Bay Regional Council (HBRC)
- Tasman District Council (TDC)
- Environment Canterbury (ECan)
- Otago Regional Council (ORC).

Each of the five councils provided an example of a water permit authorising *take* and *use* from surface water and one from groundwater. The terms and conditions of these examples were reviewed and compared to determine how the effects of *take* and *use* of water are dealt with.

We also reviewed regional water plan provisions covering the take, use, damming or diversion of water and the discharge of contaminants into water, or where they may enter water. Plan objectives, policy and rules were either downloaded from websites of the five councils or provided by council staff.

4.2. Current Practice for Water Permits

The observations that follow are based on only a few examples of water permits from each of the five councils. The rigour of assessment and conditions applied to water permit applications varies across each region depending among other things on the degree of stress on the particular water resource to which the application relates.

Some councils included in permit documents the reasons for the conditions assigned; for example, HBRC included a "Condition Analysis" table and TDC included "Reasons for the Decision". EW produced a comprehensive "Çonsent Evaluation Report" then issued a separate

Resource Consent Document. ORC uses a separate template for groundwater and surface water *takes*. Evaluation documents from ORC and ECan were not sighted.

All councils applied maximum rates of abstraction, and various measuring and metering requirements for compliance checking. Some councils had multiple temporal volume requirements (e.g. daily, weekly, monthly and annual volume limits [ECan]) whereas others had single abstraction rates (e.g. only weekly limits [HBRC]).

Some councils specified restrictions on taking of water during low flows, but this varied according to the water resource and location. For example, TDC specified rationing steps in Waimea water management zones but not for a water take from a river in Golden Bay where no allocation regime has yet been formalised. The ORC and HBRC examples of surface water *take* consents provide for restrictions on the *take* at council's discretion but this is not the case for the groundwater examples supplied. EW had no low flow restrictions on the permits supplied, while ECan had restrictions on both permits.

TDC included an assessment of the cumulative effect of the additional *take* against allocation limits. EW included "sustainability" as an assessment criterion but in the example sighted did not comment on cumulative impacts of the new *take* against existing allocations for the water resource. Cumulative effects did not appear in the HBRC "condition analysis". ORC and ECan examples were not sighted.

TDC required the user to take into account proximity effects (water level drawdown caused by a neighbour's pumping) between groundwater abstractions. EW technical staff assessed proximity effects as part of the evaluation of the application. It was not clear for the other councils' groundwater applications whether proximity effects were assessed.

Controls relating to the maximum application rates of water onto land were variable between and amongst councils. Some specific rate controls existed for either groundwater or surface water *take* permits (e.g. EW & TDC). HBRC, ORC & ECan included a clause relating to soil water holding capacity, with no numerical criteria.

Permits included few other conditions that relate to water quality effects of the water use; among conditions that were included were preparation of farm management plans (TDC), use of a backflow preventer (ECan), "practicable steps" to avoid surface runoff (ORC), avoidance of pipe leakage (HBRC). In the water permits examined, intake screening of surface water takes was regulated by all councils except HBRC.

All permits had a clause relating to the possibility of review and amendment of the consent, pursuant to the rights and obligations of councils under s128 of the RMA.

4.3. Current Practice in Council Water Plans

Current regional plans relating to *take* and *use* of water were assessed from the five councils, and the following observations drawn.

All water takes other than minor takes (e.g. for domestic purposes) required a resource consent; permission to *use* water is not always addressed explicitly. Plans had varying levels of conditions, standards, terms and matters for discretion, ranging from none (HBRC) to many. Taking water from Natural State water bodies and significant wetlands, identified in several plans, was prohibited.

Allocation regimes for some but not all water bodies exist in ECan, EW, ORC, TDC plans. Allocation limits are not referred to in HBRC rules, although minimum flows and allocatable volumes for rivers and streams are referred to in policy 74 “Implementation of environmental guidelines” as listed in Table 9 in Chapter 5 of HBRC’s regional plan.

Restrictions during low flows were specified in some locations or zones in EW, TDC, ECan and ORC plans. EW defines different user priorities; TDC has rationing and rostering regimes. HBRC does not specify rules relating to restrictions during low flows, but states that take must cease in some streams when flows drop below specified levels.

For considering proximity effects between groundwater abstractors, ORC and ECan included conditions requiring no other users be adversely affected; EW and HBRC plans had no provisions for this, while TDC had proximity effects as a matter for discretion in granting water permit applications. Intake screening controls for surface water takes were generally comprehensive, but were absent from the HBRC plan.

Provisions regarding maximum application rates of water to land were present in ECan, EW and TDC for some parts of their regions, but absent in ORC and HBRC plans.

ORC, TDC, HBRC amalgamate *take* and *use*, whereas EW and ECan differentiate the two, with specific requirements for irrigation use, and conditions relating to avoidance of runoff. Table 1 summarises the extent to which councils differentiate or combine water *take* and *use*.

In comparing approaches in the different plans, there is a wide variability in the conditions attaching to the same activity in different regions. A water *take* or *use* activity can be permitted in one region but controlled in another, and this distinction also applies to different water resources within a single region.

As the number of water permits inspected was limited, it is not possible to generalise about the ease of separating *take* and *use* components of water permits for the full range of consents issued by each council.

Based on a meeting in January 2007 with regional council water policy staff to discuss a draft of this report, unbundling of existing water permits appears manageable, given clear guidance and training across and within councils.

Table 1: Extent to which the five regional plans distinguish *take* from *use* of water

EW[a] **Separated**	HBRC[b] **Combined**	TDC[c] **Combined**	ECan[d] **Separated for larger uses**	ORC[e] **Uses generally not mentioned**
"Water take": Rules 3.3.4.8-3.3.4.17 "Water use": Rules 3.4.5.3-3.4.5.6	6.7.1 "Takes and uses of water" Rules 53-54	"The taking, diversion or use of water" Rules 31.1.2-31.1.6 "The diversion of water by structures" Rules 31.1A.1-31.1.A.2 "The damming of Freshwater" Rules 31.2.1-31.2.3	"Taking, diverting and using of water in small quantities " Rules WQN1-5 "Taking of surface water in larger quantities" Rules WQN6-12 "Taking of groundwater in small quantities" Rules WQN13-16 "Taking of groundwater in larger quantities" Rules WQN17-WQN24 "Using of water in larger quantities" Rules WQN25-32	"The taking of surface water" Rules 12.1 "The taking of groundwater" Rules 12.2 "The damming and diversion of water" Rules 12.3

[a] Proposed Waikato Regional Plan: Proposed Variation No.6 – Water Allocation.
[b] Hawke's Bay Regional Resource Management Plan Operative 28 August 2006.
[c] Proposed Tasman Resource Management Plan, Part V, Water – 13 January 2007 version.
[d] Variation 1 Proposed Canterbury Natural Resources Regional Plan, Chapters 4 & 5, Water – 3 July 2004 (excludes Opihi and Waimakiriri regional planning areas).
[e] Regional Plan: Water for Otago, 1 January 2004.

5. Summary of Australian experience

Six of the seven Australian states are currently implementing or planning the "unbundling" of *take* and *use* components of water consents. This section summarises the rationale for that unbundling and reviews the approaches being taken by individual states, and its applicability in the New Zealand context.

5.1. Australian research on "unbundling" water entitlements

Young and McColl (2002) propose a water allocation system with three components, in line with the theoretical framework outlined in section 2 above:

- The *entitlement* – the long term interest (share) in a varying stream of periodic allocations
- The *allocation* – a unit of opportunity (usually a volume) as distributed periodically,
- The *use license* – permission to use allocations with pre-specified use conditions and obligations to third parties.

According to Young and McColl (2002), inconsistent use conditions and inconsistent approaches to enforcement discourage economically efficient resource use and distort water transfers. In an unbundled system, each component can be managed independently without consideration of what is happening to the other component. *Entitlements* define equity among those with interests in the resource. *Allocations* define the periodic quantity that may be extracted from the common pool or sold. The *use license* defines the site-specific conditions pertaining to use including effects on the environment and other users. Young and McColl suggest that water access entitlements could have a maximum 40-year term, with an option to extend the term if certain conditions are met and the relevant water resource management plan permits it.

In Australia, some irrigation companies have been reluctant to approve transfers out of their schemes. This reluctance arises because the remaining scheme members will face a greater share of operating costs, but irrigation companies can also be subject to pressure from community members worried about effects on the local economy if water is transferred away (Mike Young, personal communication, February 2007). Those trading water out of schemes are often charged "exit fees" that, in principle, can be a fair and efficient way to protect remaining scheme members from being left with assets they cannot afford to maintain. But the manner in which exit fees have been determined and the associated legal consequences have inhibited efficient use of water, rationalisation of infrastructure and structural adjustment (ACCC 2006). McColl and Young (2005) argue that adjustment should be expedited rather than impeded. When adjustment is impeded, they say, innovators leave the district in frustration and the adjustment problem is made worse rather than better.

Young and McColl (2002) also address the question of return flows. An important question is whether the water allocation to be traded is expressed as "gross" (volume pumped) or "net" (volume consumed). The difference between gross and net reflects the effects that water use efficiency has on the volume of water returned to the system for use by others. If a person pumps 1,000 m^3/week at 50% water use efficiency, 500 m^3/week returns to the system for use by others. If the pathway is through groundwater the effect can be delayed. If water use efficiency is improved to say 90%, an extra 400 m^3/week is removed from the system. Depending on the scale of return flows, this may lead to unacceptable environmental effects unless allocation limits have been set based on an expectation of 100% use of allocated water. One option, where return

flows are significant, is to allow only the transfer of that which has been consumed (the net volume).

An alternative would be to allow for return flows by setting allocation limits conservatively, as return flows for New Zealand water resources (other than reticulated systems with explicitly defined return flows such as the Rangitata Diversion Race) are unlikely to be changed to the extent of the example above. Regional councils could retain discretion to use net allocation for particular catchments or situations; Environment Waikato refers to net take in its latest water plan for takes with defined return flows or discharges. This is discussed further in section 7.1.2 of this report.

5.2. Australian Water Reforms

The restructuring of water entitlements along the lines discussed by Young and McColl has been adopted in recent Council of Australian Governments (COAG) water policy for Australia. In 1994, COAG committed the governments of Australia to a water reform process. Two main objectives of the COAG reform process were: firstly, a commitment to separate interests in land from interests in water; and secondly, to improve water pricing arrangements.

In 2004, COAG adopted its National Water Initiative (NWI). All states except Western Australia and Tasmania signed the Intergovernmental Agreement on a National Water Initiative (NWI)[1]. Key elements of the NWI relevant to the unbundling of water permits are (COAG, 2004):

- water access entitlements to generally be defined as open-ended or perpetual access to a share of the water resource that is available for consumption, as specified in a water plan (recognising that there are some cases where other forms of entitlement are more appropriate);
- improved specification of the environmental outcomes to be achieved for particular water systems, improved accountability arrangements for environmental managers and statutory recognition for water that is provided to ensure environmental outcomes are met;
- over-allocated water systems to be returned to sustainable levels of use in order to meet environmental outcomes, with substantial progress by 2010;
- regional assessments of the level of water intercepted by land use change activities and requiring new activities expected to intercept significant volumes of water to hold a water access entitlement if the catchment is at, or close to, its sustainable level of water allocation;
- continued implementation of full-cost recovery pricing for water in both urban and rural sectors;
- national standards for water accounting, reporting and metering.

Under the agreement, states were obliged by the end of 2006 to amend their legislative and administrative regimes to separate water access entitlements (cf. *take*) from regulatory approvals enabling water use at a particular site for a particular purpose (cf. use).

Under the NWI Agreement, water access entitlements will

- specify the essential characteristics of the water allocation;

[1] *http://www.coag.gov.au/meetings/250604/iga_national_water_initiative.pdf*

- be exclusive;
- be able to be traded, given, bequeathed or leased;
- be able to be subdivided or amalgamated;
- be mortgageable (and in this respect have similar status as freehold land when used as collateral for accessing finance);
- be enforceable and enforced;
- be recorded in publicly-accessible reliable water registers that foster public confidence and state unambiguously who holds the entitlement, and the nature of any encumbrances on it;
- clearly indicate the responsibilities and obligations of the entitlement holder consistent with the water plan relevant to the source of the water;
- only be able to be cancelled at Ministerial and agency discretion where the responsibilities and obligations of the entitlement holder have clearly been breached;
- be able to be varied, for example to change extraction conditions, where mutually agreed between the government and the entitlement holder; and
- be subject to any provisions relating to access to water during emergencies, as specified by legislation in each jurisdiction.

A further reason for seeking consistency of entitlements between states is the need to allow inter-state transfers of permits within whole catchments (eg. Murray-Darling). The Australian states' individual experiences in separating or "unbundling" water rights are relevant to the proposition for separating and better defining "*take*" and "*use*" water permits in New Zealand, and are reviewed below.

5.3. New South Wales

The New South Wales (NSW) Department of Natural Resources reports[2] that NSW was the first state to legally separate water access licences from land title. Under the NSW Water Management Act 2000, a water access license is issued separately from the approvals for water supply works. Water access licenses are specified as having a "share" and "extraction" component. The "share" component of the license specifies the shares in the available volume of water the license holder is entitled to from the relevant water source. The "extraction" component specifies the time, rate circumstance and location of the extraction.

Water access licenses can be sold or transferred permanently as part of a property settlement or as an independent separate asset. There is no requirement to be a landholder to buy a water access license. License owners can sell their entire license or all or part of the share component of the license.

In a New Zealand context, the "*take*" allocation component of a water permit would be equivalent to the NSW water access licence, except that allocations in New Zealand water permits are at specified volumetric rates rather than shares of the total allocatable volume for that water resource.

[2] *http://www.dnr.nsw.gov.au/water*

5.4. Victoria

In Victoria, the state government released a White Paper in June 2004 titled *Our Water Our Future: Securing Our Water Future Together*[3] and transitional arrangements are currently being implemented to convert or "unbundle" existing *take* and *use* permits (or water rights) into water use licences in regulated systems[4]. In Victoria, the water use licence will be issued free of charge, where an old permit exists. Implementation is scheduled for 1 July 2007.

In Victoria, unbundling recognises that the bundle of different types of entitlements can be better managed when separated into three individual components (see Figure 2):

- *Water Share*: a legally recognised, perpetual right to a share of the water resource, not linked to a specific piece of land. It is specified as a maximum volume with an estimated reliability of this maximum being met, subject to any cap or minimum flow rules. The water share is broken into two parts – a high reliability share, and in some cases a medium reliability share (formerly a "sales" allocation, readily traded). In some cases perpetual water shares replace diversion licenses that previously had a 15 year tenure.
- *Delivery Share*: an entitlement to have water delivered to a property, usually via a channel system
- *Water Use Licence*: an entitlement to use water on a property, recorded in the Water Register, and described by the land parcel, total volume of water that can be applied annually, and conditions applying to water use. Current users automatically receive a water use license, although only in cases where there are quite specific conditions would a hard copy need to be issued. Conditions on these licenses can be modified if a Land and Water Management Plan requires this. Water use licenses only expire if no water is used on the property for 10 years.

Comparing these three Victorian entitlements with the New Zealand context, the *water share* would be equivalent to the allocation within a water permit. The *delivery share* would either be a water delivery arrangement with a water supplier such as an irrigation scheme or a resource consent for works to access the water such as a bore permit or land use consent for works on the bed or bank of a river. The *water use licence* would be the bundle of site-related conditions in the water permit which prescribe the taking and use of the water.

Among the benefits of unbundling in Victoria, Houghton et al (2005) expect it will allow water to be leased and will make it easier for irrigators to adjust the reliability of their water supplies.

Unbundled water permit details will be stored in a publicly accessible Water Register. This will:

- Record who has been issued with water shares and the reliability, tenure, location and volumetric allocation for each water share;
- Record how much water has been allocated against water shares, how much has been used, who used it and where it was used;

[3] *http://www.dse.vic.gov.au/waterfuture*

[4] For a 2-page fact sheet on the "unbundling" process in Victoria, see: *http://www.dse.vic.gov.au/CA256F310024B628/0/FA75C6C557E98F7ACA2570A6001C90BF/$File/OWOF+Water+Use+Licences.pdf*

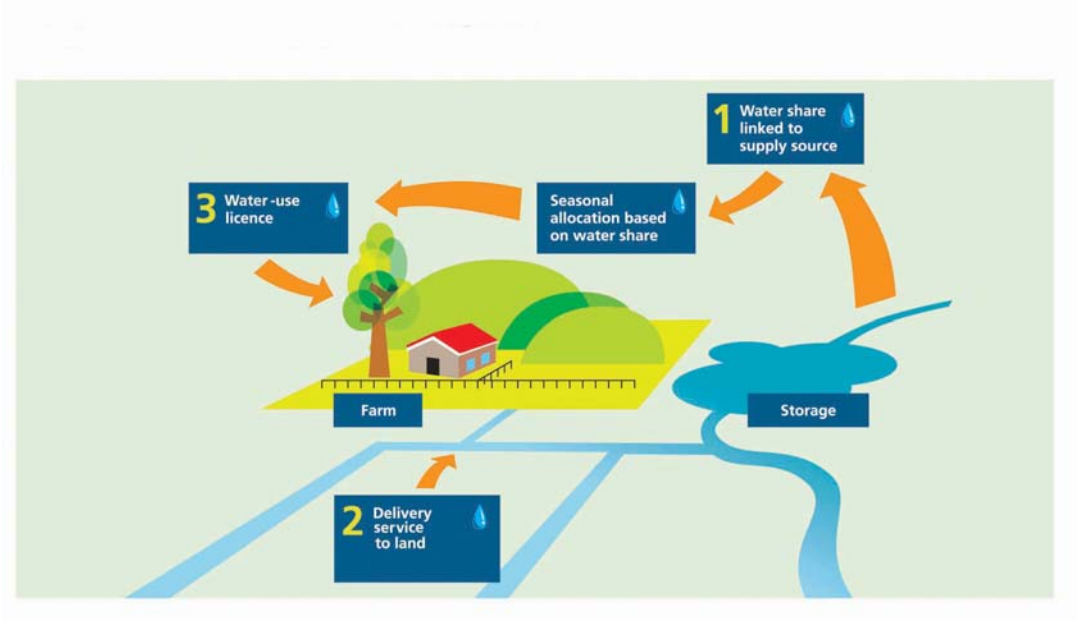

Figure 2. Components of a Water Entitlement System in Victoria (Victorian Government, n.d., Ch 4).

- Record registered interests in water shares, such as mortgages and leases; and
- Provide summary reports on volume of water shares in each water system, annual allocation, use and the trading history, including average prices for each water system.

Persons or entities that do not hold land for using water entitlements will be limited to holding no more than 10% of the system's water shares. Metering will be obligatory, and partially subsidised by government. All water users will pay an Environmental Levy for funding water resource management, set at 5% (presumably of annual delivery charges) for urban users and 2% for rural users[5]. Extension services, training and incentive packages to encourage best water use practice are provided by government. Unbundling will occur for a specified water resource when the Minister makes a declaration to that effect, and only after consultation with water users.

5.5. South Australia

South Australia[6] is unbundling current water licences into up to five components:

1. *Water Access Entitlement*: an ongoing right to a proportion of the resource, separated from land title, and able to be traded.

2. *Water Allocation*: a specific volume of water allocated, typically over a season, and presumably derived from the WAE for that year.

3. *Site Use Approval*: a right enabling use of the water at a particular site and for a particular purpose, subject to conditions. Water can only be used if a Site Use Approval is

[5] *http://www.vff.org.au/index.php?id=118799*
[6] *http://www.dwlbc.sa.gov.au/assets/files/SWR_LicenceInfo.pdf*

held for the land, but a person does not need to hold a Water Access Entitlement or Water Allocation to obtain a Site Use Approval. It is not tradeable.

4. *Works Approval*: a right to construct and operate works such as pumps or wells to extract water subject to certain conditions. A planning approval may be required for large pumping infrastructure. Otherwise, this is an implicit right.

5. *Delivery Share*: a right to access a portion of the capacity of a delivery system, also tradeable.

Again, comparing with the New Zealand context, the *water access entitlement* and hence *water allocation* correspond to the water take allocation within a New Zealand water permit. The *site use approval* is the bundle of site-related conditions in the water permit, while the *works approval* is analogous specifically to the land use consents needed to authorise physical access to the water resource.

Amendments to the South Australian Natural Resource Management Act enabling this separation process were expected in Parliament by March 2007. The amended legislation will include transitional arrangements that will provide for the old licensing system to continue to operate until all existing licences are converted.

5.6. Queensland

In Queensland the Water Act 2000 provides the legislative basis for managing the state's water resources[7]. Queensland does not appear to have pursued unbundling of water entitlements as broadly as its southern neighbours.

Water entitlements include water allocations, interim water allocations and water licenses. A water allocation is a new "unbundled" entitlement to *take* water that can be held by non-landholders, and derived from an existing water licence in specified water resources. Water allocations are an authority to take supplemented water or unsupplemented water and are an asset with their own title. Following approval of the relevant Resource Operations Plan (ROP) and registration of the water allocations granted under the ROP, the water allocations can be traded permanently, assigned seasonally or leased. This will normally be like the discretionary approval process under our RMA. Water licences, where they are allowed to continue, will remain attached to land.

5.7. Summary of Australian Experience

In summary, Australia is well on the way to unbundling water permits to improve management and re-allocation of water to more efficient uses. Experience in implementation in Victoria and South Australia appears particularly relevant to consideration of similar issues in New Zealand.

The key lesson to be learned from Australia is that transferability is best catered for by making the water entitlement (i.e. the *take* component of a water permit) as simple as possible, and addressing site-specific issues separately.

Other important lessons are that unbundling is better done before a crisis occurs rather than after; how it is done depends on the nature of the water resource, the pressures it is under, and the pre-existing management regime; and unbundling often needs to be driven by central government to overcome local inertia, provide consistency and maximise the benefits.

[7] *http://www.nrw.qld.gov.au/water/reform/index.html*

6. Case Study: Environment Waikato Proposed Variation

6.1. Separation of *Take* and *Use* in EW's Proposed Water Allocation Variation

Current practice at Environment Waikato (EW) is for consents to *take* water to include authorisation to *use* that water, with the use typically specified in the consent.

On 20 October 2006, Environment Waikato notified proposed changes to the Proposed Waikato Regional Plan (WRP) dealing with water allocation (EW, 2006a). Under the variation, the council proposes to manage issues of water *take* (as well as damming and diversion) separately from issues arising from water use.

As proposed, section 3.4.5 of the WRP makes the *use* of water for irrigation a controlled activity (rule 3.4.5.5) in specified catchments and also in other catchments where the irrigation use is not able to comply with conditions of permitted activity rules 3.4.5.3 and 3.4.5.4. This includes overriding the exemptions in RMA s14(3)(b) for stockwater and domestic use; i.e. these also require consent in the specified catchments. Matters over which the council reserves control include measures to avoid, remedy or mitigate the adverse effects on water quality, on tangata whenua values and taonga and on neighbouring properties. Uses that cannot comply with the permitted or controlled activity rules would be a discretionary activity under rule 3.4.5.6.

In addition, rule 3.4.4.1 regarding transfers of water permits requires (condition (i)) that a water permit "shall be transferred only to parties who hold a current consent for the *use* of water or to parties whose intended use of the water is permitted by a rule in the plan" (EW, 2006a, p.36). This rule, which permits downstream transfers of water permits, only applies to consents to take surface water. Transfers of groundwater takes would still require an application under s136 of the RMA.

According to EW staff, they anticipate that, if these proposals are confirmed, existing consent holders will not be affected until they wish to transfer some or all of their water take to another location. In this case, EW consent staff will split the consent into *take* and *use* components and adjust the *take* consent to reflect the amount transferred. The *use* consent, if one were required (in many cases the use would be permitted by the plan rules), would be given a new number and recorded in the council's consents database. EW staff members do not anticipate any legal difficulties or obstacles arising from this approach (D Speirs and B McAuliffe, personal communication, 17 November 2006).

If the user permanently transfers the full quantum of their *take* permit, they could surrender their *use* permit in order to avoid paying administrative fees for the consent. Alternatively, they might retain the *use* permit so that they do not need to re-apply if they decide to use water in the future (although in that case they would need to acquire a permit to take water).

6.2. EW's rationale for controlling the use of water

In its s32 report (EW, 2006b, pp.128-129) on the proposed variation, EW states that Plan rules as they currently exist "allow water quality in specified shallow lakes in the region to breach s70 of the RMA". In addition, the Council has received advice that intensification in the upper Waikato catchment could result in breaches of s70. Section 70 prohibits councils from permitting, via a rule in a plan, discharges that would, either individually or in combination with other discharges,

cause any of a number of serious adverse effects on water. RMA s107 imposes corresponding constraints on the issuance of consents to discharge into water.

The s32 report further notes that the use of water for irrigation "is a substantial contributor of nutrients to the Waikato River catchment and the intensively farmed catchments" around five shallow lakes (*ibid*., p.129). Because use of water for irrigation causes discharges of contaminants to natural water through runoff and leaching of return flows, those discharges need to be authorised. According to EW's analysis, permitting the use of water in such circumstances would be tantamount to a permitted activity rule authorising discharges, which would breach s70 because of the likelihood of adverse effects.

Thus, EW concluded, controlling the use of water for irrigation in specific catchments is necessary to avoid breaching s70 of the RMA, as well as to be consistent with the water quality objectives in its regional policy statement and regional plan: "it would be *ultra vires* to progress this variation without putting in place mechanisms to address this effect" (*ibid.*).

The s32 report also stated:

> "Council accepts that this could be seen as a piecemeal response to a broader issue but considers that it is an appropriate intermediate step pending a full review of policy approaches to managing land use impacts on water quality in the Waikato Catchment scheduled to be completed in 2009.
>
> "To recognise that a fuller review is pending, it is proposed to make the use of water a controlled activity in the specified catchments. This means that consents will be granted with relatively few conditions and minimal bureaucracy" (*ibid.*).

6.3. Commentary on EW's proposed approach

EW's proposed approach is a useful case study on policies and rules for unbundling *take* and *use* that could be applied by other regional councils. This section comments on how well the EW approach could work. Overall, the EW design appears sound, although there are some aspects that could be improved and others that would benefit from further development.

It is not clear from the variation whether existing water users in the upper Waikato and catchments of the five shallow lakes will be required to apply for consent under rule 3.4.5.5. Any irrigator holding a consent to *take* and *use* water would presumably not require further consent, but if "*use*" is not included in the existing consent, or if a user is relying on a permitted activity rule or an RMA s14(3)(b) exemption that will no longer be available in the affected catchments, a new consent would probably be required.

The variation does not refer to the process anticipated by EW staff of splitting existing consents into two components when a consent holder transfers some or all of a water *take* permit to another location. It would be preferable for this to be explained in the plan and for the plan to provide clear guidance to consent staff regarding which parts of a combined consent would become part of the water *take* consent and which would belong in the *use* consent.

In this respect, rather than separation into *take* vs. *use*, it might be better to distinguish between the allocation aspects of the *take* permit (i.e. the authorised quantum and low flow-restrictions pertaining to the entire resource) and the site-specific conditions on *take* and *use*, which might

include conditions regarding intake screening and effects on local streams as well as conditions pertaining to the use of water to control adverse effects on water quality. Otherwise, a transfer under a permitted activity rule would necessarily involve transferring conditions of *take* to the new site, even though these might not be appropriate at the new site. However, creating a "*site*" permit is probably not possible without an amendment to the RMA, as discussed further in section 7 of this report.

The s32 report describes in some detail the concept of net take, which would be used when splitting a consent and to define the quantum available for transfer (EW, 2006b, pp 147ff). However, the definition of net take in the variation does not fully reflect the detail in the s32 report, creating some legal uncertainty as to how it can be applied. The report also notes a potential difficulty where a surface water take and an associated discharge are not legally linked by consent conditions (*ibid.*, p 150). This creates a possibility that the gross amount of the take could be transferred and the discharge discontinued, whereas if the two were legally linked only the net amount could be transferred. If the council, in determining the level of allocation in the catchment, has counted only the net take even where there is no legal requirement for a minimum discharge, a transfer as described above could cause a resource to become over-allocated. In such a case, the report indicates that EW will apply Policy 14 of the Variation, "Reducing Over Allocation", which refers to ten different policy options listed in Method 3.3.4.7, leaving the Council wide discretion over how to address the over-allocation and creating uncertainty for users.

The implications of the definition of net take and the provisions for separation of consents and for transfer of water *take* permits would be more clear if EW provided, in the s32 report or a separate document, some examples of how the provisions would be implemented for certain types of permits. This could include how transfers would affect certain kinds of permits, including how the authorised allocations would be adjusted and how this would affect the priority of allocation for both the transferor and transferee.

The matters over which EW has reserved control give it considerable discretion to impose conditions requiring measures to avoid, remedy or mitigate adverse effects on water quality or to address several other concerns. The amount of discretion provided for in rule 3.4.5.5 may in fact suggest that the rule should be for a discretionary rather than a controlled activity.

There are also some minor wording issues in EW's proposed variation. For example, the discretionary activity rule 3.4.5.6 concerns only irrigation uses that do not comply with the other rules, whereas it arguably should encompass all uses that do not comply. Non-irrigation uses that cannot comply with rule 3.4.5.3 are thereby left as non-complying activities with no guidance to consent staff processing applications.

7. Options for Unbundling Water Permits

In order to improve management of the effects of water use, and to improve efficiency of allocation by facilitating transfers of allocations to *take* water, we recommend that water permits be "unbundled" into separate components, as suggested by the language in s14 of the RMA ("take, use, dam or divert").

As noted in section 5.5 of this report, South Australia is unbundling water licenses into up to five different components, and it is possible to envisage further separable components, e.g. tradable salinity discharge allowances. For most New Zealand water resources, we consider that

unbundling into two components – the allocation and the management of effects – will generally be sufficient to achieve water management objectives. In some situations, particularly where an irrigation scheme has a bulk water permit for multiple water users, or where storage (either natural or manmade) enables a council to determine each year how much water is available for abstraction, it might be advantageous to unbundle the water permit further. This is discussed below in 7.3.

Following the theoretical framework in section 2 of this report, unbundling into two components would enable equity objectives to be achieved through initial allocation of permits to *take* water (and potentially through resource rent and/or occasional re-allocation of permits), efficiency objectives to be achieved through protocols for transfer of permits, and environmental externalities to be managed through conditions on the use of water. Unbundling clarifies which policy "levers" are being used for which objective and also reduces transaction costs for transfers of consents, which is the instrument used to achieve efficient allocation.

In this part of the report, we describe how unbundling of the different components of water permits could be implemented, drawing upon Australian experience and upon New Zealand experience with water management in the RMA context more generally. We then analyse the implications of unbundling *take* and *use*, consider other options for unbundling, and discuss issues likely to arise for regional councils, including transitional issues.

In this discussion, we assume that the legal interpretation of "*use*" includes not just use of water in-stream, e.g. for hydro-electric power generation, but extends to how the water is used after abstraction. On this assumption, for example, an irrigator needs permission to "use" water for irrigation, a factory needs permission to use water to clean equipment, and a district council needs permission to supply water for domestic, commercial and industrial uses. As noted in section 3 of this report, there is some doubt that this is the correct legal interpretation. If the Government decides that "*use*" should be interpreted in this way, it might be advisable to amend the RMA to include a definition of "*use*".

7.1. Unbundling *take* and *use* in water permits

As noted earlier, the RMA states that a person shall not "take, use, dam or divert" water without express authorisation in a regional plan or a resource consent. Regional councils often include authorisations to do two or more of these things in a single water permit without the separate authorisations and associated conditions being clearly distinguished. The simplest form of unbundling, then, is to clearly distinguish these components, even if they are still combined in a single consent.

We focus here on unbundling the "*take*" and "*use*" components but note that authorisations to dam and divert, and any associated conditions, should also be clearly distinguished from any other authorisations in a water permit.

As will become clear from discussion in section 7.3, unbundling of *take* and *use* will facilitate transfers only to a limited extent; in most cases, councils would still need to process a transfer before it could take effect.

7.1.1. The "*water take permit*"

Water take permits are the vehicle for the council to manage the cumulative effects of *take* on the flows and levels of the overall resource, as well as localised effects of abstraction.

If "*take*" and "*use*" were separated, the "***water take permit***" would specify:

- the quantum of water the holder is authorised to take, specified as instantaneous, daily, weekly, seasonal and/or annual allocations (as appropriate to the resource);
- the location of the take;
- the resource or water management zone from which it can be taken;
- the quantum (if any) the holder is required or assumed to return to the resource specified as instantaneous, daily, etc. return flows as per the authorisation to take (or this could be specified as a portion of the water abstracted);
- the net amount of the allocation (if different than the gross abstraction), which is therefore the amount available to be transferred to another user;
- when and under what circumstances the permit will be reviewed, pursuant to s128 of the RMA; and
- the expiry date of the consent.

In addition, the consent could have conditions related to:

- the security of supply and priority of the permit relative to other users and in-stream flows, specified as restrictions that will apply at times of low flow or reduced groundwater levels in the main resource;
- metering, monitoring and reporting requirements;
- screening and other requirements pertaining to the water intake;
- avoiding or limiting drawdown effects on neighbouring properties, nearby surface waters and groundwater resources, e.g. where there is a risk of saltwater intrusion, loss of spring flows, or other significant adverse effect; and
- administrative and other charges payable by the consent holder.

The "purpose" of a water *take* permit would simply be specified as "to take water". Staff of some councils consider that the purpose of a consent cannot be changed upon transfer, so the purpose should be stated as generically as possible unless the council wishes to maintain some specific use for the water.

The authorised take could be specified either as a volume per unit of time (e.g. litres/sec, m^3/week and/or m^3/year), which should be uniform units for all consents to take from the same resource, or as a share of an amount specified as "available for allocation" in the regional plan.

Young and McColl (2005) recommend specifying authorised takes as unit shares[8], to facilitate adjustment of allocations according to the amount of water available each year and to ensure that councils are able to reduce total abstractions to increase in-stream flows if new information shows this to be necessary.

[8] Unit shares are effectively proportional shares, but for legal reasons are not defined as a percentage. Unit shares are used in company structures and in New Zealand's quota management system for commercial fisheries.

While we see some merit in this approach, the same outcome can be achieved with water *take* permits specified volumetrically. With volumetric allocations, increases in in-stream flows would be achieved by adjusting the restriction regime for low flows, i.e. by raising the flow level at which restrictions are triggered, thus reducing security of supply. The restriction regime would be specified in a regional plan and hence could be amended by a plan change, with corresponding changes to consent conditions as provided under s68 of the RMA. This allows consent holders to continue to use the original authorised amount when it is available, but still provides flexibility to protect in-stream flows.

We consider specifying water *take* permits volumetrically is simpler, provides more certainty for water users, and is therefore supported by case law [Minister of Conservation v Otago Regional Council C071/02]. For these reasons we prefer volumetric allocations to specifying unit shares in a resource.

In terms of defining the resource from which take is authorised, even if a take is from a tributary of a larger resource, the resource would be specified in the water *take* permit as the main resource, so as not to inhibit transfers downstream. The actual location of the take and name of the tributary would also be specified (but would by definition be altered if a permit were transferred to a different site), enabling the council to manage any allocation limits and low flow restrictions that pertain to that part of the larger resource. In this way, users' flexibility for transfers is maximised while councils retain flexibility to describe in the regional plan the main resource, the tributary or water management zones, and the rules for allowing transfers within and between these parts of the water resource.

7.1.2. Return flows and gross vs net allocations

Return flows would only be specified in the water *take* permit if the consent holder is required to return a specified amount as a condition of the water take. If the amount of return flow varies seasonally, then the consent should be clear on the net take allocated at any time.

As mentioned in section 5.1, Young and McColl (2002) recommend specifying water permits in terms of net usage. We support this approach where a resource has already been over-allocated on the basis of expected return flows. For example, if all users were assumed to have return flows of 50% of their abstractions, a regional council might have allocated 200% of the net amount of water available. If users are able to transfer their gross allocation to a new user with higher water use efficiency, or increase their own efficiency, total water abstracted will exceed 100% and in-stream flows and/or security of supply will be threatened. This can be addressed by specifying in the regional plan the assumed water use efficiency and return flows for specific uses, and limiting users to the net amount consumed. Users might still increase water use efficiency through minor adjustments not mentioned in the plan, but if they change crop or irrigation system they would need to stay within their net allocation.

However, apart from the above scenario, we do not recommend defining all *takes* on a "net use" basis using estimated return flows, for three reasons. Firstly, return flows from uses such as irrigation are highly variable, depending on both climatic conditions and irrigation practice, so any estimates may have low reliability. Secondly, return flows from irrigation and possibly other uses often contain contaminants and contribute to deterioration in water quality. Discharges can be made subject to water quality conditions, but these can be difficult to monitor and enforce under irrigation in particular, and contaminants are difficult to eliminate entirely. Thirdly, the complexity of rules required to manage return flows is not warranted unless return flows are a significant proportion of the allocatable volume. We consider it preferable to encourage users to increase

their water use efficiency and minimise return flows, and this is best done by specifying water take permits in terms of the total authorised *take* rather than the net amount consumed.

Thus, return flows should only be specified as a requirement where they are inevitable or desirable, in which case the quantum should be specified as a condition of the water *take* permit. Conditions to limit contamination via return flows should be included in the water *use* permit or a separate discharge consent, as these might need to reflect local conditions. The return flow requirement specified in the *take* permit is, therefore, not a discharge consent; it is simply a condition on the authorisation to take that determines the net amount of the allocation from the available resource.

The "net" amount of the authorisation is calculated as the authorised quantum of take less the quantum of required return flow for a relevant duration.

7.1.3. The "*water use permit*"

Other matters that have traditionally been included in water permits would be specified in a "water use permit" or would be addressed via conditions on a permitted activity rule in a regional plan. This could be a separate permit or, for administrative simplicity, could still be part of a single water permit that combines *take* and *use*. In the latter case, the "water use permit" would need to be a separate and distinct part of the permit, effectively two separate consents in one permit.

Matters to be included in the ***"water use permit"*** are:

- Conditions on use of water to avoid, remedy or mitigate the adverse effects of use on water quality and any other direct, indirect or cumulative adverse effects on the environment.

  This may include, for example, conditions on the quality and/or timing of discharges and return flows, the timing and rate of irrigation and/or fertiliser application, and restrictions on activities based on the extent of soil saturation.

- Conditions restricting abstractions during periods of low flows or levels of a local resource – these would be in addition to any restrictions in the water *take* permit that pertain to the overall resource. For example, conditions pertaining to groundwater abstractions occurring near the coast where saltwater intrusion might be a risk, or near a spring where depletion of springflows could occur.
- Monitoring and reporting requirements.
- Such other conditions as the regional council deems appropriate, including any provisions regarding efficient use of water.
- The expiry date of the consent.
- Administrative and other charges payable by the consent holder.
- When and under what circumstances the permit will be reviewed, pursuant to s128 of the RMA.

The *use* permit could include a maximum rate of water application to land that is independent of allocation quantum in the water *take* permit, in which case the more restrictive provisions would prevail. For example, the council could specify in a *use* permit that, due to local conditions, irrigation application at a particular site shall not exceed 20 mm/ha/week due to potential impacts of runoff on a nearby stream. If the consent holder were to increase their water *take* authorisation

(e.g. through transfer from another user), they would still not be able to apply more than 20 mm/ha/week, but the increase would enable them to irrigate more land.

As noted above, the authorisation to *use* water could be included in a permitted activity rule instead of requiring a water use permit, at least for the majority of situations. Where there is potential for some adverse effects, but not significant enough to warrant a full consent process, the rule could include a condition that the user have an appropriate property environmental plan (e.g. Irrigation Management Plan or Factory Environmental Plan) approved by the council, addressing matters specified in the rule. These could be linked to any catchment management plan developed by users to encourage an integrated catchment management approach to land-water issues, driven by users.

7.2. Treatment of existing consents

Unbundling of *take* and *use* could be implemented starting with new consents. Existing consents would remain valid and require no change unless the consent holder decides to transfer some or all of the *take* allocation to another location. In this case, the consent holder would apply to the council to have the consent reconfigured into two separate consents (or into two distinct parts): a water *take* permit and a *use* permit. The water *take* permit would then be amended to reflect any transfers and the *use* permit would be unaffected. However, to ensure an effective and complete transition to unbundled consents, councils could be required to reconfigure all existing consents by a specified date, e.g. within five years of a National Policy Statement (NPS) or RMA amendment relating to water allocation being issued.

There might exist water permits in some regions that authorise *take* but where *use* is not explicitly authorised in the permit itself or in the plan, although we have not found any in our review of selected permits from five regional authorities. If such situations exist, they could be *ultra vires* (depending on the interpretation of "*use*") and should be remedied. To avoid undue disruption to existing activities, an NPS could authorise use of water for the purpose of an existing use for a defined period, say five years or the remainder of the existing water permit, whichever is less. This would give councils time to develop permitted activity rules to authorise most uses (possibly subject to conditions) and, for other uses, give users time to apply for a new water *use* permit that includes an authorisation to use water for the intended purpose.

7.3. Issues arising from unbundling and transferability of water *take* permits

If the *take* and *use* components of water permits were unbundled as outlined above, there would be greater transparency of the conditions of *use* and transfers of water *take* permits would be easier. However, water *use* permits should *not* be made more transferable from site to site. This section discusses how the design of the unbundling could facilitate or hinder site-to-site transfers of *take* permits.

7.3.1. Appropriateness of conditions

The text box on the following pages provides an example of how unbundling into *take* and *use* would affect the transferability of water *take* permits. If the transfer is processed as a permitted activity, this results in inappropriate conditions (or the lack of appropriate conditions) at the site to which water allocation has been transferred. There are various ways to address this within a *take* and *use* framework but all have drawbacks that can be avoided if a *take* and *site* framework is chosen, as described in section 7.4.

What happens when a water *take* permit is transferred?

Consider a partial transfer of a water *take* permit as shown below, from a livestock farmer (A) irrigating pasture from a tributary, Little Stream, to a grape grower (B) abstracting from the main stem, Big River. In this example, water permits are specified in terms of net allocation and B acquires water from A (using net allocation is not necessarily recommended – see 7.1.2 – but is done here to illustrate how net allocations would be adjusted in the case of a transfer).

There are several important things to note regarding this example. First, where a council or permit distinguishes between gross and net take, it is a portion of the net allocation that is transferred, not the gross authorisation to take, although there is a subsequent adjustment to the gross authorisation.

		A: Pasture with border dyke irrigation (from Little Stream, tributary of Big River, upstream of B)	**B: Grapes with drip irrigation** (from Big River)
BEFORE TRANSFER	Net allocation	350 m^3/week	180 m^3/week
	Deemed return flow	50%	None
	Gross take authorisation	700 m^3/week	180 m^3/week
	Conditions	Shall not take water when flow of Big River is less than 5 m^3/sec. Shall not take water when flow of Little Stream is at or below 250 l/sec. Intake shall have screen with not more than 10mm mesh.	Shall not take water when flow of Big River is less than 5 m^3/sec. Intake shall have screen with not more than 5mm mesh.
TRANSFER of allocation		-40 m^3/week	+ 40 m^3/week
AFTER TRANSFER	Net allocation	310 m^3/week	220 m^3/week
	Deemed return flow	50%	None
	Gross take authorisation	620 m^3/week	220 m^3/week
	Conditions	Shall not take water when flow of Big River is less than 5 m^3/sec. Shall not take water when flow of Little Stream is at or below 250 l/sec. Intake shall have screen with not more than 10mm mesh.	Shall not take water when flow of Big River is less than 5 m^3/sec. Intake shall have screen with not more than 5mm mesh.

Second, if the transfer were processed as a permitted activity, e.g. with a condition that the council be notified prior to the transfer being given effect, RMA s136 requires that the condition related to Little Stream also transfers to A. There are various means to avoid the unintended consequences of this:

- The transfer could be treated as a controlled activity in order to give the Council authority to alter the conditions.
- The restriction conditions could be included in the plan rather than individual water permits, and the plan could specify the areas to which each restriction pertains. (This is not favoured as consent holders rely on rules contained in their consents.)
- The condition could be worded so as to become redundant if the permit is transferred to a new site at which the condition is no longer relevant, e.g. "Water shall not be taken from Little Stream or from groundwater within 200 metres of Little Stream when the flow of Little Stream is at or below 250 l/sec."

The first option, making a simple transfer such as this a controlled activity, would slow down the transfer process, which could be problematic in times of serious drought when users need to make quick decisions. The other two options require plans and consents to be written accordingly and hence would not work for existing consents, although for the third option it might be possible to re-write the conditions, e.g. when a permit is reconfigured into *take* and *use* components. But this still has the drawback of potentially cluttering transferred consents with irrelevant conditions.

A fourth option would be to include the condition not on the water *take* permit but on the water *use* permit, in which case the condition would not be transferred. But as it is a condition related to *take*, not *use*, this might be ultra vires, and would require an RMA amendment to enable it. A fifth option, if the RMA is to be amended, is to include such site-specific conditions in a new kind of permit, called a "*site permit*"; see 7.4 below.

Another thing to note is that B has a stricter intake screening requirement than A – this is not uncommon because fish spawning occurs in the lower reaches of rivers. If the permit to take 40 m^3/week is simply transferred with existing conditions, the intake screening requirement at B for the additional amount would be inadequate. (Note that a similar issue would arise if abstraction at B needed to be controlled for pumping effects on neighbours, whereas A had no such conditions.) Again, options for avoiding unintended effects are similar to those just outlined above: make transfers a controlled activity (adds transaction costs and delays), or write all the screening requirements into the regional plan (probably unrealistic and does not deal with existing consents) or write extra conditions to describe intake requirements if the permit is transferred and exercised somewhere else (clutters up consent with non-operative conditions). The alternative is to address intake screening in a "*site permit*" rather than as a condition of the *take* permit.

Note also how a temporary transfer from A to B, e.g. valid from 1 to 15 February 2007, would be executed. In this case, A's permit would be amended to say that from 1 to 15 February 2007, the net allocation authorised by the consent is reduced to 310 m^3/week. B's permit would be amended to allow 220 m^3/week to be taken during that period, or the council could issue B with an additional water *take* permit for 40 m^3/week, able to be used in conjunction with B's original permit but only for the duration of the transfer.

7.3.2. Annually varying allocations

Where storage in an artificial reservoir or underground aquifer enables a regional council to determine annually how much water will be available for allocation, it is useful to distinguish between a long-term allocation (i.e. for the duration of the permit) and the annual allocation. Ideally, the annual allocation would be a separate license or permit (which might need to be authorised via a legislative change), so that the annual allocation could be transferred in whole or in part without affecting the long-term allocation. Young and McColl (2005, p. 69) recommend that the annual allocations be managed like bank accounts, with debits, credits, balances and amounts carried forward to the subsequent period (which might be less than the balance remaining unused at the end of the season).

7.3.3. Return flows

Where water abstractions give rise to return flows, these can be accommodated in transfers as long as the return flows are explicit either in the water *take* permit itself or in the regional plan. As shown in Figure 3, it is the net allocation that is transferred, and corresponding adjustments are made to the gross allocations of the two parties. But if return flows are not explicitly linked to the abstraction – for example, a city council or a major industrial facility would typically have a wastewater discharge permit that is not legally connected to its water *take* permit – the regional council would need to process a transfer (rather than allow transfer as a permitted activity) to take account of the return flow via the discharge. Thus, transfers involving a user with significant return flows should be processed by the regional council.

7.3.4. Enhanced water sharing during low flows

Unbundling and the resulting enhanced transferability of consents would help local water user groups to share water when takes are restricted during low flows. For example, if water users are operating under a 35% restriction, they could agree to allow some users to take 100% of their authorisation as long as others took less, provided that as a group they met the 35% restriction. Under a regime with permitted transfers, and with unbundled take permits, the notification to the council of the quantities each user was going to take during specified periods could be automated, even to the extent of notification via the web (Fenemor, 2006; sec 4.4). This flexibility currently exists within irrigation schemes where the company holds a single permit, but can be difficult to implement for users outside such schemes or between users inside and outside of a given scheme because of different site-related conditions attached to the different water permits.

7.3.5. Transfers of permits to dam or divert water

Permits to dam or divert water are currently not transferable under s136 of the RMA, but in principle these could also be unbundled into water *take* and *site* components, with the water take permit also transferable, once appropriate rules and protocols are developed. Dams and diversions typically do not consume water, but they can change the timing and/or location of its availability to the detriment of other users, creating the potential for bargaining to find mutually beneficial changes to the storage, release or diversion regime. For now, these matters can be addressed through civil arrangements between the respective parties, although this can have high transaction costs. If permits to dam and divert were unbundled and appropriate protocols developed, then s136 could be amended to allow transfers of water *take* between such permits.

7.3.6. Unbundling to facilitate transfers within and outside irrigation schemes

Finally, where an irrigation scheme holds the water *take* permit rather than individual irrigators holding permits, this can facilitate transfers within the scheme but inhibit a transfer to someone outside the scheme (see 5.1 of this report). To prevent irrigation companies from inhibiting transfers of permits and impeding adjustment, there is a case for assigning water permits to individuals rather than irrigation schemes or companies. In South Australia, for example, individual users are given a "delivery share" in addition to water entitlements and water licenses (see 5.5 of this report). This share, which entitles the holder to a portion of the infrastructure for delivering water, also entails obligations, e.g. a requirement to pay an annual share of operating costs, and could specify conditions upon which the share could be terminated. The Australian Competition and Consumer Commission (2006) provides detailed recommendations on how this should be done. Whether this is likely to be a problem in New Zealand is unclear, but it would seem sensible for members of irrigation schemes to start reconfiguring the nature of their delivery contracts to, among other things, include specific termination clauses that promote rather than impede efficient water use and efficient provision of infrastructure. It would also be sensible, if RMA provisions regarding water permits are to be amended, to enable water *take* permits to be further unbundled into long-term and seasonal allocations.

7.3.7. Summary

Unbundling "*take*" and "*use*" will facilitate transfer of water permits to some extent, although unless the conditions can be untangled sufficiently (e.g. by identifying specific limits in the regional plan), transfers would still need to be controlled via application to the council, to ensure appropriate conditions to protect the environment and neighbours. Similarly, water *take* permits that involve consequent return flows that are not explicitly linked to the abstraction should be processed by regional councils unless regional plans provide the details on how the net transfers and related conditions are to be determined.

Where a potential new user does not have a water *use* permit or authorisation, unbundling *take* and *use* would not change the fact that a new application would be required. This would be appropriate, because if the intended new *use* is not authorised in the regional plan as a permitted activity, the council needs to consider the potential for site-specific adverse effects before water is used at the new site.

7.4. An alternative approach to unbundling: "*take permit*" plus "*site permit*"

As noted in the previous section, unbundling water permits into *take* and *use* components will increase transferability to some extent, but there could remain numerous instances where transfers still need to be processed by the regional council to ensure the *take* permit has appropriate conditions at the new site.

Thus, rather than separation into *take* and *use*, another approach would be to distinguish between the allocation aspects of the *take* permit (i.e. the authorised quantum and low flow-restrictions pertaining to the entire resource) and the site-specific conditions on both *take* and *use*. For surface waters, these site-specific conditions might include conditions regarding intake screening and effects on local streams as well as conditions pertaining to the *use* of water to control adverse effects on water quality or on other parties.

For groundwater permits, conditions in the *site* permit could address avoidance of saltwater intrusion, drawdown effects on neighbours, groundwater contamination and effects on hydrologically connected surface waters. This approach might require some change to the terminology regarding permits – e.g. a "*water take permit*" and a "*site permit*" – and would require

an amendment to the RMA. The permit to manage site-specific effects could still be called a "*water use permit*" or "*use license*", but in this report we use the term "s*ite permit*" to distinguish it from an approach that leaves all conditions associated with water take on the water *take* permit.

The *site permit* would not be transferable, but it could issued for a longer duration, and possibly be made non-expiring, although the conditions would need to reviewed on a regular basis, e.g. every ten years. It would be important to ensure that a non-expiring site consent did not have the effect of preventing the regional council from imposing new conditions in future where necessary to manage any adverse effects that had been identified.

In terms of defining the resource to which an allocation relates, even if a take is from a tributary of a larger resource, the larger resource would be specified in the *water take permit*, so as not to inhibit transfers downstream. The actual location of the take and name of the tributary (or alternative water sources at that site) would be specified on the *site permit*, enabling the council to manage any allocation limits and low flow restrictions that pertain to that part of the larger resource.

The *water take permit* (i.e. the allocation) would specify only the resource, the authorised quantum and any restrictions on the quantum that apply e.g. in times of low flow, plus monitoring and reporting requirements, the conditions under which the permit might be reviewed and the expiry date.

All other conditions would be specified in the regional plan (in the case of the water use being a permitted activity) or in the *site permit*, including matters such as intake screening and conditions to prevent local adverse effects of *take* and *use*. For example, the *site permit* could include a maximum rate of water abstraction or water application to land that is independent of the water *take* permit. The council might specify in a *site permit* that, due to local conditions, abstraction at a particular site shall not exceed 15 l/sec due to potential impacts on a nearby stream or neighbouring consent holder. If the consent holder were to increase their water *take* authorisation (e.g. through transfer from another user), they would still not be able to abstract at an instantaneous rate greater than 15 l/sec. However, the increase might allow them to increase the daily or weekly abstraction and thereby irrigate more land, depending on the relationship between instantaneous, daily and weekly volumes on the permit.

Table 1 shows the difference between the two different approaches. With separation into *Take* and *Site*, items 9, 10 and 11 would be included in the *Site permit* rather than the *Take permit*. The difference is small but crucial, because it means that transfers could be allowed under a permitted activity rule without transferring inappropriate site-specific conditions related to the effects of taking water.

Under this approach, a potential user who acquires a *water take permit* would not be able to exercise the permit unless he or she has a *site permit* (or authorisation via a permitted activity rule) from the regional council – *site permits* would not be transferable. Thus, each user would always have appropriate conditions for *take* and *use* of water at their site regardless of whether they acquired from another user an additional allocation to take water.

Table 1. Unbundling of water permit conditions into Take & Use vs. Take & Site.

Provision or condition to be included in water permit or permitted activity rule	Take & Use	Take & Site
1. Quantum of water the holder is authorised to take	Take	Take
2. Resource or water management zone	Take	Take
3. Required return flows (if any) and net allocation	Take	Take
4. Restrictions under low flows/levels of the water resource	Take	Take
5. Metering, monitoring and reporting requirements	Take	Take
6. Administrative and other charges	Take	Take
7. Review conditions for take permit	Take	Take
8. Expiry date for take permit	Take	Take
9. Location of the take	Take	Site
10. Screening and related requirements for the intake structure	Take	Site
11. Restrictions to limit drawdown effects on nearby properties, streams and connected groundwater resources	Take	Site
12. Type of use	Use	Site
13. Conditions on use of water to avoid, remedy or mitigate the adverse effects of use on water quality, e.g. rate or timing of water use	Use	Site
14. Monitoring and reporting (if any) of water use	Use	Site
15. Other conditions of use, e.g. efficient use of water	Use	Site
16. Administrative charges (if different than for take permit)	Use	Site
17. Review conditions for use permit (if different than for take permit)	Use	Site
18. Expiry date for use permit (if different than for take permit)	Use	Site

8. Methods for implementing unbundling

Separation of *take* and *use* components of water permits ('unbundling') could be implemented through a number of instruments – a national policy statement, RMA amendment, regional plans or, perhaps most effectively, some combination of these.

8.1. Implementation via a National Policy Statement (NPS)

RMA s45(1) states "The purpose of national policy statements is to state objectives and policies for matters of national significance." Section 55(2) requires local authorities to give effect to national policy statements by amending regional policy statements and plans as appropriate.

An NPS could advance unbundling of *take* and *use* components of water permits in one of two ways:

(a) It could direct councils to insert specific policies to implement unbundling, or

(b) It could state a more general policy intent and direct councils to decide the actual wording and to which catchments the policies would apply.

Option (a), a more directive NPS, would minimise legal risk for councils. Any challenge to the legality of policies, e.g. regarding interpretation of "*use*", would be a matter for the NPS and therefore resolved once at the national level. Under the less directive option (b), implemented through an NPS with associated non-statutory guidelines and model planning provisions, councils would have more flexibility and would face any consequent legal risks.

In either case, to advance unbundling of *take* and *use* and realise its benefits, regional plans would need to give effect to two main policies: one dealing explicitly with the unbundling, the other dealing with transfers of permits.

The first policy would state that councils should expressly authorise *use* of water via either resource consents or regional rules; where such authorisation is included in a resource consent that also authorises the person to take water, the separate authorisations and associated conditions shall be clearly distinguished. The policy should then state what matters would be included in a water *take* permit and what matters would be addressed in the *use* permit, as outlined in 7.1.1 and 7.1.3 (or *take* permit and *site* permit, if the approach in 7.4 is adopted). This policy should also state how the term "*use*" of water is to be interpreted; an RMA amendment might be required, especially if permits are to be unbundled into *take* permits and *site* permits. Under option (a), the NPS would include the actual wording of the policies to be inserted in regional plans, possibly extending to the wording of any necessary rules. Option (b) would leave the wording to regional councils, in which case it could be expected to vary across councils.

The second policy would state that transfer downstream of a surface water *take* permit would be a *controlled activity* subject to the council ensuring there are appropriate conditions to manage site-specific effects on local streams and fish vulnerable to the intake structure. Alternatively, if water permits are unbundled into *take* and *site* permits, downstream transfers of a surface water *take* permit should be a *permitted activity* subject to the transferor notifying the council prior to the transfer taking effect, and provided that the transferee has an existing authorisation to use water. Councils should also permit down-gradient transfers of groundwater takes, subject to regional plan provisions delineating groundwater resources, management zones and gradients so that users would know whether a transfer is permitted or requires application to the council under s136. Councils should also specify zones within which there are no adverse effects of upstream transfer, e.g. within the catchment of the same hydro lake on a river with several dams.

Excluded from the policy on transfers would be permits to dam or divert water and permits for uses that involve significant return flows, e.g. municipal water supply or industrial takes with significant associated discharges. Transfers involving permits with return flows could be permitted activities if regional plans specify how return flows are accounted for, but otherwise should be controlled activities to enable councils to adjust for net water consumption. As noted in section 3.4 of this report, transfers of any permits that originated as mining privileges and existing use rights should still be processed by councils to ensure appropriate conditions.

Over-allocated resources should also be excluded from a policy facilitating transfers. Transferability could be implemented in over-allocated resources without any administrative complications, but there would be adverse policy implications. For example, enhanced transferability could lead to consents being exercised more fully, which would undermine users' security of supply or, if in-stream flow protections were not adequate, would exacerbate adverse effects on the environment. Similarly, catchments without adequate environmental flow regimes

should be excluded because without an adequately defined regime, the council does not have a robust basis for determining whether the catchment is over-allocated.

Before policies specified in an NPS would have effect, councils would need to incorporate them into regional plans with corresponding methods. Thus, option (b) could result in significant delays in giving effect to these policies, arising from the time required for submissions, hearings, decisions and appeals in each region before the policies began to be implemented. This could be avoided if the Government pursued option (a) and used the provisions of RMA s55(2) to insert specific wording into all regional plans via an NPS.

This latter approach seems preferable – there would be one submission process at national level rather than sixteen separate processes regionally. However, there would still be a need to identify catchments excluded because they are over-allocated or lack adequate environmental flow regimes. Regional councils could advise the Government of over-allocated catchments, which could be included in a Schedule to the NPS (a catchment would be removed from the Schedule once over-allocation has been resolved), which is a simpler process than a regional plan change. The lack of adequate flow regimes in some catchments could also be addressed in the NPS (or in national environmental standards), e.g. by providing a formula to establish environmental flow regimes and associated allocation limits where regional plans are silent or incomplete.

8.2. Implementation via amendment to the RMA

The policies outlined above for possible inclusion in an NPS could also be implemented by amending the RMA to provide the same direction to regional councils. Provisions could have immediate effect without changes to regional plans, but if over-allocated catchments were to be exempted they would need to be identified, probably in a Schedule to the Act, to which catchments could be added or deleted by Gazette notice.

The main advantage of this approach is that it provides more legal certainty than relying on an NPS, which could be subject to legal challenge, especially on the interpretation of water "*use*". On the other hand, some refinements are likely to be desirable in a dynamic policy area such as this, and legislation takes longer to amend than would an NPS.

It would also be advisable to remove from s136(2) the ability to transfer permits for the *use* of water (or a *site* permit, if that approach is taken). In the context recommended here, such permits are by definition site-specific and should not be transferred.

In fact, if the "take and site" approach is pursued, the RMA could be amended to remove all reference to needing permission for the "use" of water. This would create some transitional issues, e.g. deeming any permits to "use" water to be "site" permits.

8.3. Implementation via Regional Plans

As described in section 6 of this report, Environment Waikato proposes through Variation 6 to the Waikato Regional Plan the more formal separation of *take* and *use*. This approach could also be implemented at the discretion of other regional councils, supported by design guidelines and model planning provisions provided by government.

An advantage of this approach is that the design of policy and rules, and the timing of implementation for unbundling could be tailored to regional needs. However this could also be a major disadvantage as it would result in variable approaches and design duplication for what is really a national level policy approach.

If this approach were taken, regional councils would, as described in 8.1, need to design policy and administrative procedures for

(a) the unbundling or *take* and *use*, including for the granting of new water permits and for separating existing consents, and

(b) facilitating transfers of *take* permits, once unbundled.

Summary

We recommend using an NPS to provide the policy framework for regional councils to insert in their regional plans and amending the RMA to provide the appropriate legal instruments (e.g. a *site* permit) and remove any legal uncertainty. This is more consistent with the intended structure of policy statements and regional plans and better provides for the likelihood of future refinements to the policy framework.

9. Administration and Transitional Issues

9.1. Issues for regional councils

Initially, separation of *take* and *use* would only occur for new consents and when a consent holder wishes to transfer some or all of the *take* component of an existing consent. Eventually, all consents would be in the new format once existing consents expire. Given that until recently some permits to *take* and *use* water were still being issued for 35 years, there would be benefit in setting a target date (e.g. 2015) for councils to convert all consents to the unbundled format. An alternative to having a target date for unbundling would be to require unbundling when a catchment or water resource reaches 70% of its allocation limit, or to target priority catchments.

Councils could also choose whether to issue two separate consents or to have just one consent with *Take* and *Use/Site* components clearly distinguished. Depending on how they decided to implement the unbundling, councils might need to adjust their consents databases to accommodate the new format. There would be benefit in councils working together, with support from central government, to determine the best way to manage this.

Having two consents would probably give rise to two administrative charges, as opposed to one charge if the consent remains a combined permit (with distinct components). Two separate charges might or might not be appropriate, as different issues are being managed by the separate consents, but could be unpopular with users. We recommend leaving within the discretion of councils whether to combine consents, and how much to charge, subject to public submissions via the Annual Plan and Long Term Council Community Plan process.

Councils would need to identify water resources where enhanced transferability is not appropriate due to over-allocation and/or lack of robust environmental flow regimes. Depending on how the Government decides to implement policies, this could be in a Schedule to an NPS or the RMA, or simply in regional plans.

ECan, TDC and probably other councils have issued some new consents “not to be exercised concurrently” with existing consents. These consents were issued either to allow the holder flexibility to choose which water source to use at any one time (e.g. surface water or

groundwater), or where a later consent overrides an earlier consent that the holder has not surrendered. If transfer is "permitted", this condition would transfer with the permit and the new holder would still be bound by it (i.e. not allowed to exercise it while the other one is being exercised), although this could be difficult to enforce. Another option would be to exclude from permitted transfer rules any water *take* permit that cannot be exercised concurrently with another consent, and to require a discretionary consent application to transfer these. (Note this would also include the original consent, even though this may not have the specific condition written into it.)

A compliance issue arises if the authorisation to *use* water is provided in a regional plan rather than via a *use* permit. For example, if an irrigator is operating under a permitted activity rule the council will not necessarily know how much land is being irrigated. If irrigated area is known, the council can monitor compliance with maximum application rates (e.g. 20 mm/ha/week) by dividing the total abstraction by the irrigated area (although this assumes that all irrigable area is receiving an equal amount of water, which might not be the case).

To address this concern, we recommend that a condition of any permitted activity rule for *use* of water be written notification to the council of the area being irrigated and the crop being grown, at the beginning of each season. The council can follow-up on holders of water *take* permits who have not reported their irrigated area. Alternatively, where correct application rates are particularly important to avoid adverse effects, water *use* can remain a controlled or discretionary activity.

9.2. Initial Stakeholder and Council Responses to Unbundling

Comment from water stakeholders and regional councils on the idea of unbundling *take* and *use* has been canvassed in two preliminary ways.

In March 2006, the authors completed a discussion paper on policy options for enhancing water use flexibility and security within New Zealand's water allocation system[9] funded jointly by the Ecologic Foundation's programme Institutions for Sustainable Development and the Landcare Research programme Integrated Catchment Management (both funded largely by the Foundation for Research Science and Technology). Unbundling *take* and *use* was one of nine policy proposals canvassed in that paper and discussed at a workshop of water stakeholders from the Motueka catchment. Their responses are reported in Sinner et al (2006)[10]. Views on this proposal ranged from "strongly agree" to "strongly disagree" although there was more support than opposition, and the proposal needed more detailed explanation. One respondent to the written questionnaire at the end of the workshop commented, "This is the boldest and best step proposed" while others wanted more discussion of it.

The second opportunity for comment was a small meeting of regional council and government department water policy representatives convened by the Ministry for the Environment in January 2007 to discuss an early draft of this report. This meeting reviewed examples of current consents and plan provisions for ease of unbundling *take* and *use* components. The discussion highlighted the different structures for consent documents issued around the country. One perspective was that "*take*" and "*use*" in the RMA are essentially unbundled already and we should take advantage of this fact and proceed with administrative separation of *take* and *use*. It was noted that the

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9 *http://icm.landcareresearch.co.nz/library/project_documents/WaterAllocationDiscussionDocFINALCombined.pdf*

10 Also available at *http://icm.landcareresearch.co.nz/* and *http://www.ecologic.org.nz*

unbundling process will incur some administrative cost and time needs to be allowed for implementation. The meeting considered that the full description of the proposals, i.e. in this report, would allow better evaluation of the advantages and disadvantages.

10. Recommendations

To enhance the transferability of permits to take water and improve the management of the effects of water use, the New Zealand government should take steps to advance the unbundling of water permits into their *take* and *use* (or *take* and *site*) components. This would create more flexibility for users to apply water to its highest value use and thereby increase economic returns while improving the management of any adverse effects of water use. There are various issues regarding how to implement unbundling.

10.1 "Take and use" vs. "take and site"

First, a decision is required whether permits will be defined on the basis of *take* and *use* or *take* and *site*. *Take* and *use* is more consistent with existing legislation, although some clarification of "use" might still be required. More significantly, unbundling into *take* and *use* will have only limited benefits for the transferability of *take* permits. Unbundling to *take* and *site* components, on the other hand, will require a change in legislation but is likely to achieve more fully the policy objectives outlined above.

10.2 Choice of policy instrument to implement unbundling

A second issue is the choice of instrument through which to implement a policy of unbundling water permits: via a National Policy Statement (with either specific or general wording), via amendment to the RMA, via regional plans with guidance from central government, or via a combination of these. The details of these options are described in section 8 of this report. In sum, the key elements and advantages of the options are as follows:

(a) National policy statement (NPS)

An NPS would direct regional councils to insert policies in their regional plans. The first policy would require councils to distinguish between the *take* and *use* components of water permits, starting with new permits and any that are being transferred. The second policy would state that certain transfers of *take* permits would be a controlled activity (if unbundled into *take* and *use* components). Transfers could be a permitted activity if permits were unbundled into *take* and *site* components, although the *take* and *site* option would require a legislative amendment. Any provision making transfers permitted would explicitly exclude catchments that are over-allocated or do not have adequate environmental flow provisions.

The NPS could be quite specific about the wording to be inserted, or quite general. The more specific the NPS, the less legal risk is transferred to regional councils, the shorter the process of implementation due to the Schedule 1 plan review process in each region, and the less the regional variation of the outcome. On the other hand, if regional discretion and variability is seen as desirable, a more general NPS would enable this, although this entails additional costs because of the Schedule 1 process that would be repeated in each region.

(b) RMA amendment

Alternatively, unbundling could be implemented via amendment to the RMA, with clauses to implement the policies outlined above. This could entail a coherent set of new statutory provisions, e.g. based on unbundling into *take* and *site* components and possibly enabling further unbundling of other components as and where future circumstances warrant, e.g. unbundling seasonal allocation from the longer-term allocation to facilitate "leasing" water for one season. Implementation involving an RMA amendment would remove any legal risk that would otherwise arise with an NPS.

The disadvantage of using an RMA amendment to implement policy is that, compared to an NPS, legislation is much harder to refine as implementation reveals new issues and challenges.

(c) Regional plans

Unbundling could also be left to regional councils to implement via changes to their regional plans, much as Environment Waikato is doing with its Variation 6 to the Proposed Waikato Regional Plan. Central government could assist the process by producing guidelines and model plan provisions, but these would be optional and councils would still bear any consequent legal risk arising from interpretation of "*use*". The pros and cons of this option are essentially the reverse of the pros and cons for the NPS option outlined above. As with the NPS, regional plans would only be able to unbundle into *take* and *use* unless an RMA amendment authorised *site* permits.

(d) Combination of NPS, RMA amendment and regional plans

The fact that each of the above approaches has advantages and disadvantages suggests that unbundling might be most effectively implemented using a combined approach. This could consist of the following:

- An RMA amendment to (i) authorise *site* permits and further unbundling where appropriate, and (ii) to remove the ability to transfer *use* permits, and possibly remove all references to water permits to "*use*" water;

- An NPS to direct councils to insert in their regional plans specific wording of policies regarding unbundling and transferability of *take* permits;

- Regional plan provisions to (i) identify catchments that are over-allocated or do not have adequate environmental flow provisions and therefore would be excluded from any policies that permit transfers of water *take* permits and (ii) identify zones within which transfers of groundwater permits could be permitted or controlled activities, and zones within which upstream transfers of surface *takes* could be permitted or controlled.

This approach has the advantage of legal certainty, ability to refine the national policy framework over time, and regional flexibility to determine the catchments in which the transfer policy would apply. It keeps Schedule 1 costs to a minimum and ensures national consistency, although this latter point might be seen by some as a disadvantage rather than an advantage.

10.3 Permits to dam and divert water

Permits to dam or divert water are currently not transferable from site to site under s136 of the RMA, but in principle these could also be unbundled into water *take* and *site* components, with the water take permit also transferable once appropriate rules and protocols are developed.

The Ministry for the Environment and regional councils could initiate work to develop protocols for unbundling permits to dam or divert water. In the meantime, any transfers between such permits and those holding permits to take water, e.g. for irrigation or industrial purposes, can remain a matter for civil arrangements and, where necessary, amendment of consents by regional councils.

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12. Acknowledgements

Ecologic intern Amelie Goldberg reviewed regional council consents and water policy for this study. Landcare Research intern George Knights assisted with a literature review of Australian experience in separating water entitlements. Kath Bowmer, professor of water policy at Charles Sturt University Wagga Wagga provided useful direction on water entitlements in NSW and Victoria, and Mike Young of the University of Adelaide provided advice on the unbundling of bulk water consents held by irrigation schemes.

Malcolm Miller (Environment Canterbury), Mary-Anne Baker (Tasman District Council), Alistair Smail (Auckland Regional Council), Christina Robb and Donna Caddie (Ministry for the Environment) and Irene Parminter (Ministry of Agriculture and Forestry) participated in a workshop to discuss a draft of this report, including how the proposed unbundling would affect existing permits that have been issued by regional councils. David Speirs (Environment Waikato) also provided comments on a preliminary draft.