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Water Allocation and Use

Technical Working Paper

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Environment
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The interdepartmental working group involved in this project comprises of the following government departments:

- Ministry for the Environment
- Ministry of Agriculture and Forestry
- Ministry of Economic Development
- Department of Conservation
- Te Puni Kokiri
- The Treasury
- Department of Internal Affairs
- Wellington Regional Council as representative of regional councils.

Contents

1	Purpose	1
2	Outcome	2
3	Definitions	3
4	Water – An Essential Natural Resource	4
5	Allocation Issues: An Introduction	6
6	The Current Allocation and Use System	7
7	Specific Problems Identified in Current Water Allocation and Use Systems	9
7.1	Little strategic planning	9
7.2	Uncertainty in process and science	9
7.3	Limited scope for consideration of allocation of water to the highest environmental, social, cultural and economic values	9
7.4	Problems with first-in first-served	10
7.5	Little use of ability to transfer and reallocate water	10
7.6	No incentives for technical efficiency	10
7.7	Length of consents – tension between certainty and flexibility	11
7.8	Opportunities for Māori to participate in process are restricted	11
7.9	Limited organisational capacity, experience and skills in water issues	11
8	A ‘Good’ Allocation Process	12
9	Maintaining the Status Quo: Future Implications	13
9.1	Description	13
9.2	Benefits	13
9.3	Risks	13
10	Potential Policy Response – The Allocation and Use ‘Kete’	15
10.1	Component 1: Strengthen water planning processes	15
10.1.1	Description	15
10.1.2	Benefits	15
10.1.3	Risks	16
10.2	Component 2: Set allocation limits	16
10.2.1	Description	16
10.2.2	Benefits	16
10.2.3	Risks	17
10.3	Component 3: Improve Māori participation and engagement	17
10.3.1	Description	17
10.3.2	Benefits	18

10.3.3	Risks	18
10.4	Component 4: Strengthen protection of instream values	18
10.4.1	Description	18
10.4.2	Benefits	19
10.4.3	Risks	19
10.5	Component 5: Modify first-in first-served allocation system using regulatory-based approaches	20
10.5.1	Description	20
10.5.2	Benefits	20
10.5.3	Risks	21
10.6	Component 6: Modify first-in first-served allocation system using market-based approaches	21
10.6.1	Description	21
10.6.2	Benefits	22
10.6.3	Risks	22
10.7	Component 7: Introduce measures to improve technical efficiency in the use of water	23
10.7.1	Description	23
10.7.2	Benefits	23
10.7.3	Risks	24
10.8	Component 8: Establish a resource rental for water	24
10.8.1	Description	24
10.8.2	Benefits	24
10.8.3	Risks	25
10.9	Component 9: Enhance transferability of water permits	25
10.9.1	Description	25
10.9.2	Benefits	26
10.9.3	Risks	26
10.10	Component 10: Increase certainty of rights specified in water permits	27
10.10.1	Description	27
10.10.2	Benefits	27
10.10.3	Risks	28
11	Policy Packages to Improve the Water Allocation and Use System	29
11.1	Basic essentials package	29
11.2	Regulatory and planning package	30
11.3	Market instruments package	31
11.4	Illustrative mixed package	33
12	Conclusions	34

1 Purpose

This paper outlines possible components to reform the present systems for securing instream values, allocating water and controlling its uses. It outlines the extent to which each component is likely to give better effect to the principles and outcomes of the Sustainable Development Programme of Action, in comparison to the existing legislative and management systems. The extent to which each component is complementary to or would be inconsistent with other components is indicated, together with illustrative packages. For each component a series of possible actions is included to give an indication of potential benefits and risks. Once the parameters of the policy direction are determined, the most appropriate actions can then be evaluated in much more depth.

2 Outcome

The key outcome for the project (as defined in the Sustainable Development Programme of Action) is to ensure water is allocated and used in a sustainable, equitable and efficient manner. Elements to be addressed include:

- identifying better and more strategic ways of conserving and allocating freshwater from the resources available
- identifying and implementing means of addressing water shortages
- identifying and protecting instream values and needs in freshwater allocation
- maximising the sustainable, efficient and effective use of freshwater
- optimising economic, environmental, cultural and social outcomes from freshwater at a regional and national level.

3 Definitions

During the development of this briefing paper, it has become clear that there are many definitions associated with some key terms. To avoid any confusion, four key terms are defined below:

- Value: Value is defined in its holistic sense and not just in reference to economic value. ‘Highest value use’ therefore encompasses all aspects of sustainable development: environmental, social, cultural and economic.¹
- Efficiency: Efficiency in this paper is defined in terms of the technical efficiency of water use and not economic efficiency.²
- Water allocation:
 - should determine the amount of water needed in rivers, streams and aquifers to sustain instream values
 - grants legal authority to take, dam or divert water bodies up to a specified amount, sometimes subject to conditions concerning the maintenance of minimum flows or water levels in the water body, and relative priority amongst permit holders when there is insufficient water for all to exercise their legal authority in full
 - also means the amount or quantity of water a permit holder is legally entitled to take from a water body.
- Instream: Instream refers to all forms of water in their natural location, whether on or below the surface – water in surface bodies (rivers, lakes, wetlands, etc), groundwater/aquifers, transitional zones and geothermal.

¹ Questions remain around who determines what is the highest value, and on what basis, as there is a risk that the values of minority groups, could be overwhelmed by the values of the majority. These questions will be considered further in later projects under the Water Programme of Action.

² This does not preclude the consideration of a wider definition of efficiency in policy evaluation.

4 Water – An Essential Natural Resource

Water is considered to be an essential element of life – an element that transcends life itself.

New Zealand has abundant rainfall; however, it is not evenly spread geographically or seasonally. Some areas are particularly dry, such as Central Otago, and other areas receive substantial rainfall (eg, Westland). In some areas demand cannot be met at certain times of the year. Additionally, there is significant variation between rainfall in different years and climate science indicates that the frequency of droughts and other climate extremes is likely to increase in the near to medium future. Rainfall collects in surface waters (such as streams, rivers, lakes and wetlands) and also flows through to groundwater (aquifers). There are numerous small catchments that have little or no connection to other catchments.³

Water is used for a number of competing activities in New Zealand, which contribute to economic, social and cultural wellbeing. Lakes, rivers and wetlands may be preserved for conservation values (or in national parks). Consumptive uses of water include irrigation, livestock consumption, household consumption and industrial use. Excluding hydroelectric generation,⁴ irrigation is by far the largest user of abstracted water. Water allocated for irrigation has been estimated at as much as 77 percent of water allocated.⁵ High quality and abundant freshwater is also important to recreation and tourism. Water has also been an important determinant of New Zealand's settlement pattern and the location and size of farms.⁶ Without adequate supplies of clean water, sustainable economic growth and the wellbeing of New Zealanders would be compromised.

Freshwater also has important cultural values. For Māori, water represents the lifeblood of Papatuanuku (Earth Mother) and the tears of Ranginui (Sky Father), and is an essential ingredient of life both physically and spiritually. Water symbolises the spiritual link between the past and the present, thereby giving mana or authority to people. It is considered to be a treasure or taonga left by the ancestors for the life sustaining use of their descendants, who must guard these taonga and hand them on in a good state.

Māori believe that the physical and spiritual survival of all things is dependent on the maintenance of the mauri (life force), wairua (spirit), mana (status) and tapu (sacred nature) of every water body. Only a water body with an intact mauri can sustain healthy ecosystems, support a range of cultural uses, and reinforce the cultural identity of the people. The mauri can be polluted and damaged by actions that are not part of the natural realm, such as removal of native riparian vegetation, contamination or drainage.⁷ This threatens the ability of the water body to nurture living things.

³ In contrast to many overseas examples (eg, Australia and Western United States) where large rivers with a significant catchment area are more common.

⁴ This water re-enters the river system downstream.

⁵ Ministry for the Environment (2000): Information on water allocation in New Zealand, report prepared by Lincoln Environmental for the Ministry for the Environment.

⁶ Today in the east coast of the South Island, councils have started to describe water, its location and redistribution as essential infrastructure which will determine the capacity for sustainable development.

⁷ Ministry for the Environment (2001): Managing Waterways on Farms, Ministry for the Environment, Wellington.

In the modern environment, traditional values such as kaitiakitanga and the maintenance of the life-giving capacity of water, encompass and intersect with other values in water. For example, water has value to Māori – as it does to everyone – as a factor in economic development and employment, which provides sustenance and wellbeing.

5 Allocation Issues: An Introduction

Given that New Zealand has abundant (albeit variable) rainfall, the current allocation and use system has grown out of a situation where there was very little scarcity. This mindset is still common today; many New Zealanders believe that water should be ‘free’ and there is little appreciation of the number and intricacies of allocation issues.

In international and historical terms, growth and intensification has happened very quickly in New Zealand. The current allocation and use system has failed to keep up with this growth and change is required – in particular situations there will not be enough water to meet all desired uses/demands. **A flexible allocation and use system may encourage higher environmental, social, cultural and economic values to be catered for, hence assisting to achieve the difficult balance of maximising economic wealth whilst ensuring a quality environment for all New Zealanders to enjoy.**

Māori have particular interests in freshwater in New Zealand, arising out of their traditional interests and the guarantees contained in the Treaty of Waitangi. The strength of these interests is not always reflected in water management and allocation decisions.

New Zealand has some advantages in terms of analysing water allocation and use problems and determining solutions. It is much better to address these issues before water resources are fully allocated, at which point reforms are more likely to require changes to existing use rights. It is also desirable that changes are made in a sufficiently timely way to avoid adverse environmental impacts, rather than facing a situation requiring urgent clawback of water as is currently the case in Australia. The possibility of clawbacks creates uncertainties for investment, and security of water supply is important to the long-term viability of many users of water.

6 The Current Allocation and Use System

The main responsibility for allocating water under the Resource Management Act 1991 (RMA) is exercised by regional councils (and unitary authorities). The boundaries of councils are largely consistent with major water body catchment boundaries. The RMA provides for councils to make plans and policy statements with respect to allocation decisions. The plans specify environmental baselines, and how water will be shared between users (eg, priority users, rostering regimes). Currently plans are not compulsory but the majority of regional councils either have an operative plan or are in the process of developing one.⁸

In certain circumstances abstraction of water can also be limited by water conservation orders. The RMA provides for water conservation orders as an instrument to protect the outstanding amenity or intrinsic values of a water body. This purpose is not subject to Part II of the RMA as once a water body is determined as having outstanding values, other uses can only be provided for to the extent that they are clearly compatible with protection of those values.⁹ The court has interpreted ‘outstanding’ to require a national level of significance.¹⁰

Anyone may apply for a water conservation order, which is made by Order in Council (on the recommendation of the Minister for the Environment) following a hearing and appeal process.¹¹ The details of the water conservation order are defined by a special tribunal rather than by a regional council. Environmental baselines are specified and allocation limits may be set, although these do not affect existing lawful uses. The process can be lengthy, with some water conservation orders taking more than ten years to put in place because of appeals and other factors. There is uncertainty as to how regional councils should deal with new applicants for water abstraction during that time.

Water is allocated between uses (beyond environmental baselines) under the resource consent process. The process operates under a first-in first-served system. In granting an allocation (ie, a water permit) the focus is on avoiding, remedying or mitigating adverse environmental effects and the potential impact on existing permit holders.

Councils have varying approaches for dealing with an over or fully allocated resource. Some councils are identifying minimum flows and specifying the amount of water that can be taken from some rivers and groundwater aquifers. For example, the Greater Wellington Regional Council has minimum flows and allocation limits for 15 rivers in its region that are fully allocated. A method used is not to grant any further consents until water becomes available with some councils operating a waiting list approach, where the applicant will wait to gain an allocation to water if it becomes available. For example, Tasman District Council (a unitary authority) operates an informal unadvertised waiting list.¹² If a water resource is over allocated a council may use a rationing scheme where existing consents are reviewed and adjusted to

⁸ Canterbury and Gisborne are the only two regions without a plan. Environment Canterbury intend to notify the water component of its proposed Natural Resources Regional Plan on 3 July.

⁹ See An application for a water conservation order for the Buller River C032/96.

¹⁰ See An application by the Minister of Conservation for the Kawarau River C033/96, following decisions on Buller River (C032/96), Mohaka River (W020/92) and Maitai River (C032/90).

¹¹ There are currently 13 water conservation orders in place and one draft order before the Environment Court. A further application (for the Whanganui River) has been deferred while Treaty issues are resolved.

¹² Ministry for the Environment (2000): Information on water allocation in New Zealand, report prepared by Lincoln Environmental for the Ministry for the Environment.

reduce allocations. Some councils use similar rationing schemes to reduce takes during water short periods.

A water permit confers a right to take, use, dam and/or divert water subject to the availability of water. It does not constitute ownership of or property rights in the resource and does not provide a guarantee that water is available. There is legal uncertainty about the extent to which regional councils have to take into account possible adverse impacts on the availability of water to existing permit holders when issuing new water permits.¹³

Permits can be granted for up to 35 years, or for five years if no period is specified.¹⁴ They may be cancelled by a regional council if not exercised for a continuous period of two or more years.¹⁵ Permits may lapse if not given effect to within five years of the grant, unless the consent specifies a different period or an extension is granted.¹⁶ While there is no explicit guarantee of the renewal of a water permit, to date the custom has been for this to occur, although conditions to address environmental effects or efficiency requirements may be modified or added.

Water permits do not run with the land but are personal to the consent holder at the site specified.¹⁷ They can also be acted upon by any other person with the permission of the consent holder (unless there are conditions to the contrary),¹⁸ and can be transferred to a new owner or occupier of the site on application by the consent holder.

The RMA also provides for the transfer of water permits to another site within the same catchment/aquifer in either of the following circumstances:

- where the transfer is expressly allowed by a regional plan, or
- where the regional council specifically authorises the transfer following a joint application by the parties involved, having considered the environmental effects of the transfer and the other matters set out in s.104 of the RMA.¹⁹

The provision to expressly allow the off-site transfer of water permits has not been included in the vast majority of plans to date, and where transfers have been allowed it has only been in limited circumstances. Transfers on application by the parties do occur; for example, there have been about 15 on the Ngaruroro River (in Hawkes Bay) over the last eight years. However generally speaking such transfers occur infrequently. The general absence of re-allocation by transfer (trading) is not surprising given the incentive to trade would be expected to emerge only once water resources are fully allocated under the current system.

Most councils charge consent holders for processing resource consent applications. Once a consent has been issued many councils charge for monitoring the consent and some charge for monitoring the resource. Normally such charges are of a fixed nature, with volumetric charging only occurring in a few regions.

¹³ Aoraki Water Trust is seeking a High Court declaration on this issue.

¹⁴ RMA Section 123(d).

¹⁵ RMA Section 126.

¹⁶ RMA Section 125.

¹⁷ From Simpson Grierson opinion 'Water Allocation and Sustainability'.

¹⁸ RMA Section 3A.

¹⁹ RMA Section 136(2)(b)(ii).

7 Specific Problems Identified in Current Water Allocation and Use Systems

Specific problems with the current system identified by the project team are discussed in more depth below.

7.1 Little strategic planning

There is very little strategic planning designed to cope with increasing demands for water or water scarcity. While New Zealand does not have a water scarcity problem at the scale experienced elsewhere in the world, there are times and places where water is scarce. It is becoming increasingly common for water resources to be closed to further allocation (ie, applications for new resource consents are turned down). There is increasing recognition that water has a value, and that the current system is not able to recognise or meet all demands and still sustain the important natural, cultural, amenity and economic values of our water resources.

7.2 Uncertainty in process and science

In some cases, where no limit has been set as to how much water can be allocated, there is increasing public unrest at the continued allocation of water which is often viewed as a common or public resource being used for private benefit. The setting of environmental (and other) baselines has been and is a contentious process, nearly always resulting in appeals to the Environment Court. Science and environmental knowledge is evolving, especially in relation to flow patterns and issues beyond minimum flow setting, but water allocation and abstraction continues in water resources approaching full allocation. This is despite current shortfalls in information and knowledge, the understanding of consequences, and availability of suitable management tools. Together these factors lead to an administratively complex system that is not consistent in its outcomes.

7.3 Limited scope for consideration of allocation of water to the highest environmental, social, cultural and economic values

Regional water plans can specify environmental baselines, how the availability of water to a resource consent holder can be altered by issuing of subsequent consents, and which consent holders have priority when not all the allocated water is naturally available. However, most plans provide limited evaluation of where water would be most valued for environmental, social, cultural and economic reasons,²⁰ what types of development are appropriate and where, and what forms of mitigation best address the effects of such development. This is likely to reflect the effects-based approach to resource management inherent in the RMA and the fact that the resource consent processes in the Act are not oriented to assessing the relative benefits

²⁰ Both instream and out of stream values.

of competing applications. The limits of existing planning are heightened when a water resource is nearly or fully allocated.²¹

7.4 Problems with first-in first-served

Where there is insufficient water for all demands, the first-in first-served system does not guarantee that water is allocated to the greatest environmental, social, cultural or economic values. Further, when the amount of water already allocated from a catchment comes close to the allocation limit, then there is the potential for ‘goldrush’ situations which exacerbate the problems with first-in first-served. The current first-in first-served system can also make it difficult to manage the cumulative effects of numerous small water takes or discharges to water bodies.

7.5 Little use of ability to transfer and reallocate water

Even though there is provision for the transfer of water permits under the RMA, this has seldom been used except in association with changes of land ownership. This has led to a situation whereby spare capacity in the water system (eg, from unused allocations) has not been transferred or reallocated. A major stumbling block for facilitating transferability is that transfers must be permanent under current legislation and there is no capacity for the temporary or partial transfer of water permits. After a transfer is made there is no provision in the RMA to ensure that the consent is transferred back later. If the transfer is intended to be for a specific duration there would need to be a separate agreement (outside the RMA) to ensure that this occurs.

7.6 No incentives for technical efficiency

Water is increasingly recognised as a valuable and scarce resource. However, the allocations specified in resource consents do not encourage consent holders to adopt efficiency measures, although in making the application an applicant must show that the requested take is reasonable for the intended use. There are also problems with old infrastructure and with the bundling of domestic, stock water and irrigation takes under some old irrigation schemes into a single permit, making it difficult for councils to separate out the water take permitted as of right and that which is subject to greater controls. It is widely recognised that the amount of water allocated is far greater than the amount of water actually used – some of this is inevitable (using less irrigation water in a wet year, for example) and some is to do with the way people use water. Some councils have started reducing allocations in line with metered take but this has proven in some cases a perverse incentive, and encouraged people to use more water.

²¹ The Waitaki situation is an excellent example of this type of problem.

7.7 Length of consents – tension between certainty and flexibility

Consents tend to be ‘set in concrete’, sometimes for up to 35 years, and have proven difficult to adjust. Once a water body has no more water to be allocated then it is very difficult for new and highly valued uses to access water, especially given the undeveloped nature of trading of permits. Existing users believe they have rights to their allocation and indeed require this certainty to ensure reliable investment and to allow for future planning. There is a tension between flexibility and the certainty needed for investment. It is likely to be difficult to adjust environment baselines in fully allocated catchments when new information shows them to be inadequate. Such claw back situations have proven extremely difficult politically in Australia, and have to date been largely avoided in New Zealand.

7.8 Opportunities for Māori to participate in process are restricted

Māori have particular concerns about the effects of over-allocation of water – including diminishing mauri of a water body (caused by inadequate water flows, pollution or inappropriate mixing of waters), the loss of habitats supporting indigenous species, and an inability to practice customs and traditions related to waterbodies.²² All these effects can offend the mana of hapū and iwi. The Treaty of Waitangi is seen by Māori as having provided a Crown guarantee of their rights in relation to water bodies. These are sometimes expressed as an ownership right, especially where there are extensive riparian Māori landholdings, or the beds of waterways are still in Māori ownership. Property rights in, and management of, freshwater is frequently an issue in Treaty settlement negotiations. Section 6 of the RMA recognises the relationship of Māori with water as a matter of national importance. However many Māori consider that, in practice, their opportunities to participate in management and decision-making on water allocation are restricted, due to both a lack of capacity and resources (within their own institutions and in local government) and limitations in the legislative framework. Māori want greater engagement in resource management, and will expect greater involvement, better opportunities to express their kaitiakitanga and value systems, and improved relationships.

7.9 Limited organisational capacity, experience and skills in water issues

There is a very small pool of people with appropriate skills, time and experience working on and contributing to water issues in New Zealand. A wide range of skills is needed to manage water within new paradigms such as incorporation of ecological values, Māori values and sustainable development. There is often also a lack of organisational capacity, resources and information to address water issues with the required level of expertise and commitment. These limitations affect the ability of government agencies (local, regional and central), community groups and iwi/hapū to deal with water issues.

²² Nga Taonga Tuku Iho Ki Whakatu Draft Management Plan (2003).

8 A ‘Good’ Allocation Process

Processes for the allocation of fresh water need to establish an appropriate balance between the competing values society has for water. The conservation, environmental, cultural and recreational values of freshwater require a certain amount of water to be kept instream. The economic values of water can involve instream (hydroelectricity, recreation, tourism) and out of stream uses (household consumption, livestock consumption, irrigation and industrial use). As parts of New Zealand approach the limits of available water there is likely to be increasing competition between instream uses, instream values and abstractive uses and between productive uses of water.

The increasing competition for fresh water resources in New Zealand means that it becomes more important that we have:

- adequate processes to enable sound decisions to be made about how much water should remain in water bodies and how much can be abstracted
- processes that are more likely to lead to the allocation and facilitate the reallocation of abstracted water to the highest environmental, social, cultural and economic values, taking into account present and future needs. These processes should operate in a fair and equitable way, so that a small number of users cannot ‘lock up’ the bulk of the water to the detriment of the wider community
- systems that encourage technical efficiency in the use of water.

To be effective these processes need good information on the quantity, quality and location of water and also on the environmental impact of different levels of abstraction or use. The processes also need to effectively elicit information on the environmental, social, cultural and economic values of different uses of water, both instream and abstractive.

Additionally, these processes need to operate in a context of:

- the interaction between allocation and water quality objectives. The volume of water abstracted impacts on the capacity of a water body to assimilate contaminants, and some abstractive uses may contribute to water pollution
- the need to provide flexibility to enable adaptive management, given the incomplete understanding of the impact of abstraction/use on environmental instream values and the dynamic and unstable nature of freshwater ecosystems
- the impact of any abstraction on instream values and on the capacity of other productive uses to abstract water depending on return flows
- a dynamic environment with incomplete information and associated uncertainties about future opportunities for the use of water. Highest environmental, social, cultural and economic values may well change over time
- the desirability of providing appropriate certainty and consistency to users so that investment is not unduly impeded.

There are tensions between these aspects that need to be managed.

9 Maintaining the Status Quo: Future Implications

9.1 Description

Maintaining the status quo would involve retaining the existing policy framework for the allocation and use of freshwater, including the limited level of support and guidance provided to regional councils.

9.2 Benefits

It is likely that over time there will be continued improvement in regional council processes as councils gain more experience and seek to more fully exploit the potential provided by the present policy framework to assist them to resolve pressures arising from increased competition for freshwater. Such developments might be manifest in all councils developing adequate water plans, better development of regional policy statements and water plans involving a more strategic approach to water allocation issues, and greater attention to individual efficiency in water use.

9.3 Risks

The extent to which the current system will evolve to better manage environmental risks and competition for water is, however, uncertain. Further, current processes provide central Government with limited scope to influence the nature and pace of such change.

In regions where plans do not clearly specify an upper limit on the amount of water that can be allocated, there is a risk of an unacceptable loss of instream values. The potential for conflict between those wanting protection of instream values and those seeking further abstraction would increase and there is likely to be a greater need for clawback of allocations which is difficult and involves costs to users.

In situations where water is fully allocated, greater use of the transfer of water permits to enable the reallocation of water between uses might emerge as the incentive for trade increases and both councils and water users increasingly recognise the value of such arrangements in addressing competition for water. However, at present there would appear to be limited appreciation within the community of the potential for transfer of water permits and there appears to be some resistance to the concept, especially among some land owners who believe that the transfer of water permits should only occur in the context of the transfer of ownership of land.

As the availability of water becomes a more binding constraint the underlying weaknesses in current systems will become more apparent. The shortcomings of first-in first-served as a basis for allocation will become increasingly obvious, and tensions between those with and without water will increase. There is a risk of continued resistance to transfer of permits, which would act as a barrier to new and innovative uses of water and would mean there is limited capacity to allocate and facilitate the re-allocation of abstracted water to its highest environmental, social, cultural and economic values over time. Were greater use of transferability to emerge, there is a

risk that current arrangements are not sufficiently robust to protect environmental bottom lines, especially if sleeper permits are activated, as occurred in Australia. To the extent that councils are required to use clawback arrangements and/or do not renew permits to protect environmental bottom lines and to manage competition for water, uncertainty for permit holders would increase with implications for investment.

Overall, there is a risk that in the emerging context of areas of New Zealand approaching the limits of available freshwater, existing processes will not necessarily lead to water being allocated and used in a way that makes the greatest possible contribution to securing desired environmental, cultural, social and economic outcomes. Over time, as the demand for fresh water increases, there is a risk that further pressure points, such as the recent problems in the Waitaki, will emerge and the need for reform will become more urgent but that the associated costs and difficulties will be further exacerbated.

10 Potential Policy Response – The Allocation and Use ‘Kete’

The water allocation project team has identified a number of potential policy responses that may improve the current allocation and use system. These responses have been referred to as ‘components’ to reflect that any policy response will need to be woven together from a number of distinct strands, which strengthen each other as they are joined to form a smooth and strong final package. They are presented here as separate entities and are packaged in the next section.

10.1 Component 1: Strengthen water planning processes

10.1.1 Description

This component seeks to strengthen water planning processes. Government might take different levels of action, ranging from legislative change to providing assistance to facilitate greater and more effective use of the planning processes provided for under the RMA. Options within this component include:

- legislative change to make plans compulsory and/or to authorise and emphasise their allocation role²³
- a National Policy Statement specifying minimum requirements of plans to give a greater level of direction and consistency
- development of guidelines on plan preparation and what ‘good’ plans should contain
- establishing a network of water planners and/or a mobile team of specialist planning advisers.

Were the mandatory/guidance options adopted these might be complemented by the suggested support/capacity building initiatives, with this more likely to realise the potential for improving the quality of planning.

10.1.2 Benefits

The process of making regional policy statements and water plans should provide the context for the necessary strategic overview to water allocation decisions and for providing for both protection of instream values and abstractive uses. While the vast majority of councils do have or have notified their intention to have a water plan, many of the present plans do not deal with some important issues, particularly the strategic overview.

It is possible that over time there will be a significant improvement in the quality of planning processes, including strategic-level thinking. This component would provide the government with greater certainty about the timing and extent to which this will occur.

²³ Changes being considered in the RMA review are expected to assist this option.

10.1.3 Risks

There is limited risk to this approach, with most councils already moving in this direction. The extent to which central government action, especially the specification of mandatory plans, will lead to the development of quality plans will depend on resourcing and capacity issues within regional councils. Some of the identified options are intended to address these constraints. Water planning processes can also involve sensitivity at the local level, reflecting their strategic nature and the diversity of community interests in water.

10.2 Component 2: Set allocation limits

10.2.1 Description

This component involves encouraging and facilitating or requiring the setting of allocation limits for water bodies which are approaching full allocation or where there are significant instream values. Such limits specify how much water can be allocated (or by how much the flow of a river can be modified), ensuring that instream values are adequately provided for and robustly protected in the first instance. This component would also facilitate the setting of Treaty allocations to ensure that sufficient water is allocated to local iwi/hapū.

The policy response might range through varying degrees, from facilitating regional council processes to making allocation limits mandatory. For example, guidance might be provided on setting allocation limits and managing clawback situations. A more direct role for central government might take the form of:

- a National Environmental Standard that sets default allocation limits to be used when councils do not set one, or
- a National Policy Statement requiring the setting of allocation limits once the amount or proportion of abstracted water exceeds a specified level.

Further analysis and consultation is required on these options with each involving different levels of complexity and separate implementation issues and risks, which will generally be greater for the mandatory approaches.

10.2.2 Benefits

An allocation limit specifies how much water can be allocated (or by how much the flow of a river can be modified). It clearly states the availability of water (temporally and spatially) for abstraction, diversion or damming. It provides more robust protection of instream values compared to the current practice of setting minimum flows and in the case of rivers has the environmental advantage of reflecting the natural variation in river flow and minimising flat lining. The stronger protection of instream values provided through an allocation limit may also reduce reliance on water conservation orders. Further, allocation limits enhance certainty by providing clarity to all interests (including instream and future development) about the availability of water. Applicants will know where they stand when making an application or considering a development that requires the further allocation of water.

10.2.3 Risks

The process of setting allocation limits is likely to involve additional administrative costs for regional councils because of the need to gather and analyse more scientific information to support decision making, and to undertake more extensive consultation. The setting of such limits can also be controversial because of the need to explicitly establish a balance between different values and interests in the freshwater. The Waitaki experience illustrates that such decisions are very difficult and can impact greatly on the local community.

10.3 Component 3: Improve Māori participation and engagement

10.3.1 Description

This component seeks to address current and perceived barriers to meaningful Māori participation and engagement in management and decision-making around water allocation and use, given that water is a resource of great spiritual, cultural, and economic significance to Māori. Māori seek an allocation system that recognises their interests in water, and offers fair and equitable access to water resources.

A number of possible options for strengthening Māori involvement have been identified. These are of two broad types:

- improving capacity, resourcing and relationships to enable current processes to work better, or
- making legislative changes to clarify or strengthen the obligations of local authorities to involve Māori in decision-making.

A wide range of options is suggested, to allow for a flexible framework enabling local circumstances and existing relationships to be taken into account. As with other components in this paper, most of these options can be combined to form a more complete package.

Specific options within this component include:²⁴

- capacity building for Māori (funding, training, best practice guidance, etc) to allow Māori organisations and landowners to improve understanding of local government processes and resource management skills (including development of effective iwi planning documents), and develop effective working relationships with local and central government
- capacity building for councils (funding, training for elected members and staff, best practice guidance, establishment of networks, etc) to assist local authorities to understand Māori resource management perspectives and the Treaty of Waitangi, and to develop effective working relationships
- facilitation of improved relationships (best practice guidelines on developing formal agreements, funding for joint projects, etc)

²⁴ Many of these options are currently being explored further through the RMA review and the foreshore and seabed policy development process.

- greater Māori input into planning provisions – improve effectiveness of iwi management plans and other iwi planning documents through capacity building and training or greater legislative status, Māori involvement in allocation written into regional water plans, central government direction on appropriate levels of Māori involvement in planning, etc
- making local authorities more accountable for their performance in relation to Māori under the RMA – perhaps by greater alignment with Local Government Act audits, or through a new monitoring or Ombudsman process
- amendments to the RMA (eg, sections 33 and 34) to encourage greater co-management of water resources.

10.3.2 Benefits

Māori involvement at higher levels of planning will make sustainable development planning more robust, especially in relation to identifying and balancing cultural values in water allocation – although Māori involvement will also bring broader perspectives to social/economic/environmental issues and help to determine the nature of highest values. This will increase the flow of information to councils and hence aid in decision making. Wider Māori involvement may also make individual allocation decisions (ie, consent hearings) less contentious.

Increased and meaningful Māori participation in water planning and allocation decision-making may, by strengthening relationships and increasing understanding, assist in managing risks around any changes to arrangements for water allocation and use.

10.3.3 Risks

Capacity and education issues will require investment of time, money and planning, and may require significant shifts in relationships between local and central government and Māori that will be difficult to achieve in the short term.

Greater involvement of Māori in planning and decision-making may create a perception of special treatment. This could be managed via robust consultation and open communication with all stakeholders.

10.4 Component 4: Strengthen protection of instream values

10.4.1 Description

Under the existing system, parties interested in water remaining in its natural state for either environmental, cultural, recreational, landscape or economic reasons (eg, tourist operators) have their interests provided for via instream provisions in plans or water conservation orders and conditions on resource consents.²⁵ Current practice, however, is to limit protection of instream values to environmental factors such as the setting of minimum flows.

²⁵ In this context hydroelectric generation would not be classified as an instream use.

There is a view amongst many instream stakeholders that the current system does not adequately protect these values. They consider that they are having their ‘right’ (ie, the amount of water instream) continually reduced without compensation and that they have to expend considerable resources representing their views on a consent by consent basis. Applications for water conservation orders have in part been motivated by such concerns.

It can be expected that setting allocation limits would go some way to addressing these concerns. Other initiatives could include:

- modification of the nature of water permits, for example:
 - allowing consents to be granted to instream users
 - shortening the maximum consent term and increasing ability to review consent conditions
 - changes to the conditions attached to permits so that they are linked to a percentage of flow
- National Environmental Standards on what constitutes adequate instream protection by river type and instream value (which would tend to cover quantity and quality in combination)
- initiatives to encourage or require greater use of mitigation to protect instream values and/or facilitate participation of instream interests in development/management of mitigation options, for example:
 - requiring greater recognition of mitigation and ongoing relationships with instream interests as part of plans and resource consents
 - encouraging innovative mitigation thinking
 - increasing the use of trusts (for example), where statutory agencies and interest groups have an ongoing role in monitoring, investigations and mitigation in the catchment
 - applying mandatory financial contributions for mitigation or extending application of s. 36 charges or specifying mitigation requirements in plans
- encouraging greater uptake of adaptive management principles.

10.4.2 Benefits

The strengthening of instream values will provide additional certainty for both instream concerns and direct users of water. Additional certainty and greater protection of instream values may lessen the need for the application of water conservation orders and demands for additional compensation where rights are seen as being eroded.

10.4.3 Risks

This range of initiatives is diverse in nature and involves a variety of different issues, impacts and implementation considerations, which need further investigation. For example, mitigation is a relatively well-established practice for large users (eg, in the electricity generation sector) but is less so for small takes which cumulatively can have significant impacts on instream values. The provision of consents for instream users would in comparison represent a major change to the structure of existing allocation processes.

Existing or potential permit holders may have concerns about the cost impacts of any additional mitigation requirements and the implications for the amount of water available for abstraction, depending on the specific approach adopted.

10.5 Component 5: Modify first-in first-served allocation system using regulatory-based approaches

10.5.1 Description

This component involves strengthening administrative processes for the allocation of abstracted water with the objective of increasing the likelihood that water is allocated and reallocated to its most valued use. It is intended to overcome the first-in first- served basis of allocation and may involve the following elements:

- a requirement for regional councils to develop criteria to guide decision making on the allocation of abstracted water
- a mechanism that formalises a waiting list for those interested in abstracting water
- allowing applications for resource consents to be heard on a comparative basis.

It is envisaged that the criteria would guide both strategic and individual decisions on water allocation. The process would potentially enable councils:

- to set water aside in anticipation of a higher environmental, social, cultural or economic value in the future²⁶
- to better manage situations where a number of resource consents for a single resource are applied for and exceed the amount of water still to be allocated (as occurred in the Waitaki)
- to consider together the renewal of existing permits and applications for new ones in situations where all resource consents expire in a catchment at one time.

The criteria might also be used to guide decisions on how any reduction in total take or increase in the frequency of cut backs (to protect environmental values) is to be distributed among permit holders; and how any water freed up as a result of revisions to allocation limits or because a permit has been relinquished is to be reallocated. The development of criteria could be linked to the long-term community planning process under the Local Government Act to facilitate full community involvement in such decisions.

10.5.2 Benefits

The move away from the first-in first-served system will give regional councils a new tool allowing the comparative assessment of applications. Where water bodies move towards being fully allocated there will be increased competition between uses and non-uses of water. Comparative assessment allows this to be taken into account so the most appropriate allocations (including instream) can be made for any given local and regional situation. It is a more equitable system than first-in first-served and enables more holistic decision making.

²⁶ In the meantime, permits for the abstraction of this water might be granted for a short duration.

10.5.3 Risks

Further analysis and consultation is required on the specific nature and role of the criteria, including matters which councils should have regard to in developing them. The process of establishing criteria would need to involve community consultation and may give rise to controversy, reflecting the competing interests of current and future permit holders.

The extent to which this proposal would in practice ensure that water is allocated to its highest environmental, social, cultural or economic value over time is uncertain. While the proposal would allow councils to consider competing productive uses for freshwater in making allocation decisions, the key constraint is the quality of information about the value of current and future uses that can be gathered centrally to guide such administrative judgements and the capacity for administrative decision making to respond to a dynamic environment. While criteria may be modified over time, it is likely that this process will involve delays given the need to consult and reach agreement between competing interests. Further, the extent to which this proposal might contribute to desirable reallocation of water over time will depend, in part, on the duration of water permits – the longer the time period, the more limited the opportunity for allocation decisions to be reviewed.

10.6 Component 6: Modify first-in first-served allocation system using market-based approaches

10.6.1 Description

This component involves the use of market-oriented instruments, such as a tender, auction or ballot to allocate water remaining available for abstraction. These mechanisms might operate either at the broad level or more narrowly within allocations to particular uses, for example irrigation.

Tendering and auction arrangements require participants to explicitly identify the value they are prepared to pay for the right and rights are allocated in order of value. Auctions and tenders can operate according to different sets of rules relating to secrecy of bids and to the level of payment that successful bidders are required to make. For example, successful bidders may be required to pay the value of their bid/tender (first price arrangement) or the value of highest unsuccessful bid (second price arrangement). Auction and tender arrangements have been used for the allocation of radio spectrum in New Zealand. Each unit of the resource can be allocated separately or a parallel process can be run to ensure optimal combinations can be achieved and comparable prices are set.

Balloting involves the making of allocations on a random basis, and can include a requirement for successful applicants to make a pre-determined payment for the resource. Balloting is most appropriately used where potential users value the resource similarly and where it is difficult to differentiate between applicants.

Under any of these approaches criteria can be set for eligibility to enter the process in order to achieve other planning objectives or to demonstrate that the applicant is capable of developing the resource or meeting conditions on use. The trade-off is reduced potential benefits from allocation due to less competition for the resource and a narrower range of potential uses.

Market instruments for allocation can work most effectively when combined with good arrangements for post-allocation transfers and an appropriate registry system, but neither is dependent on the other. These processes might be used to reallocate water on the expiration of existing permits.

10.6.2 Benefits

These mechanisms allow the allocation of water other than on a first-in first-served basis and avoid the need for central or local government to make administrative judgements about the most valued uses of water and collect detailed information to support this decision making process.

Tender and auction arrangements provide a relatively low cost mechanism for eliciting accurate information on the value potential users attach to a resource, providing an effective means for identifying the most valued uses of water available for abstraction. The valuations placed by bidders, and thus the pattern of allocation, will however depend on the quality of information and science available (publicly and privately) as well as the detailed specification of the access right, such as duration, certainty as to the availability of water, scope to make transfers and the arrangements on expiry. A by-product of this allocation mechanism could be the payment of a return to the community.

10.6.3 Risks

Tender and auction arrangements do not allow for issues of equity of access or for wider values, such as cultural considerations, to be taken into account in the allocation process other than in initial eligibility. There may also be concerns that water available for abstraction could be controlled by a few big players. These risks can be managed through the specification of tender/auction/ballot rules and the general framework of competition policy under the Commerce Act.

Concern about certainty for existing users is a distinct issue. Addressing this would require either some form of priority for existing users on expiry (combined with or instead of the above processes) and/or longer terms.

To the extent that these arrangements entail payment for access to the resource, perceptions of ‘privatisation’ of water may arise. This may carry particular risks for Treaty of Waitangi relationships between the Crown and Māori, as well as raising concerns in the broader community. These risks can be managed by open consultation to increase understanding of the instruments, and by more effective Māori engagement.

10.7 Component 7: Introduce measures to improve technical efficiency in the use of water

10.7.1 Description

This component focuses solely on improvements in the technical efficiency of water use. Options within this component include:

- making water meters compulsory
- allowing charges²⁷ to be made on a volumetric basis, possibly with rebates on the amount of water saved.
- separate take and use consents with take consents of limited duration – the result is that consent-holders are guaranteed some water long-term but regulatory reviews for purposes of efficiency are more frequent
- providing an efficiency diagnostic service (which could be at the local, regional or national level)
- requiring seasonal volumes to be set via resource consents
- industry efficiency standards, codes of practice or a certification system
- providing financial assistance for water users to shift to more efficient technology
- public education and measures to encourage efficiency in use of domestic water (particularly related to use of drinking-quality water).

Some of the options under this component are currently available to councils, but they could be required or further encouraged nationally. This component will mostly affect existing users as new irrigation distribution systems (for example) generally have higher operating efficiencies and are often more flexible. To improve efficiency requires improved distribution designs, improved management by measurement and motivation to change. There are very real practical and cost problems with some of the older systems. Metering is also costly and will take time to implement.

10.7.2 Benefits

Improved efficiency in the use of water potentially frees up ‘extra’ water for instream values or further abstractive uses. Efficiency measures also allow users to consider the direct implications of water use and how their water use impacts on others and the availability of water. Additionally, significant energy and cost savings have been measured following water use efficiency gains in some pumped irrigation systems.

²⁷ Under s. 36 of the RMA, charges may be made to resource consent holders to cover costs of council functions under s. 35, which include information gathering and monitoring.

10.7.3 Risks

Water users may have concerns about measures that require significant changes to their water use practices or involve additional costs. There may be implications for the viability of existing businesses, depending on the timeframes for compliance and whether there is any assistance available for upgrades. This represents a high risk in areas where there are either a large number of small inefficient users or a small number of large users. To compound this problem, there may also be a reluctant uptake of voluntary measures and transitional assistance schemes may need to be set up until efficiency measures are in place.

10.8 Component 8: Establish a resource rental for water

10.8.1 Description

This component involves permit holders being required to pay a resource rental in return for access to freshwater. The purpose of a resource rental is to:

- provide a return to the community by extracting some, or all, of the value conferred on users from granting exclusive access to a community resource, and
- ensure that the value of scarce resources is reflected in decisions on their use.

Rentals may take the form of a predetermined dollar payment per unit of the resource, with the level intended to capture a given percentage of the value of the resource. Where, however, the resource is not traded it is difficult to set resource rentals with confidence. An alternative approach is to require permit holders to annually return a given fraction of their access right to be potentially allocated by the community (eg, through a community trust), with this avoiding the need to make explicit valuations.²⁸ In either case the level of the rental could be set by administrative or competitive processes.

Issues which would need to be resolved are whether the rental would be levied by the Crown or councils and its appropriate level.

10.8.2 Benefits

The requirement to pay a resource rental may make it publicly more acceptable to grant private access to a community resource. A resource rental, by increasing the cost of access to a resource can (at the margin) increase incentives for technical efficiency in the use of water, with this depending on how users respond to the increase in cost of access.

²⁸ Where there is transferability and a market is well established, permit holders might alternatively be able to make an equivalent payment, with this determined by the market price.

10.8.3 Risks

To the extent that water has already been allocated under existing permits, permit holders may well have paid for the right to access the resource through land prices. That is the value of exclusive access to a community resource may already have been captured by others so existing users could be effectively paying twice.

The imposition of a resource rental would therefore be more justified in the context of newly allocated water or of reforms where existing rights were strengthened, conferring additional value. Were, however, a rental to apply only to new permits there might be a perception of apparent inequity.

As with Component 6, an arrangement entailing payment for access to the resource may raise perceptions of ‘privatisation’ of water, both among Māori (with regard to Treaty issues) and in the broader community. The level of that risk may depend on the use to which the rental revenue is put.

10.9 Component 9: Enhance transferability of water permits

10.9.1 Description

The transfer of water permits is currently available under the Resource Management Act but there is little appreciation of the scope for transfer among permit holders, and the amount of trade has been limited.²⁹ Given that a number of water bodies have only recently been recognised as being fully allocated, however, the limited level of trading is not surprising.

Options within this component seek to encourage regional councils to consider water transfers and to remove the barriers to, or reduce the transaction costs involved in such transfers. They include:

- amendments to the RMA which would allow temporary transfer of consents³⁰
- working with councils to encourage greater consideration of transferability, and to establish appropriate procedures for transfers (including defining areas within which transfer can occur)
- working with regional councils to facilitate the establishment of a standard registry system recording permit holders and conditions etc (including abstraction volume etc)³¹
- providing a legal means to register an interest in obtaining water in a catchment where no more is being allocated
- facilitating the establishment of a national or regional water market.

²⁹ Except where the transfer occurs in the wider context of a change in ownership of land.

³⁰ Changes being considered in the RMA review may provide for this.

³¹ This would facilitate information flows in the transfer market.

More far-reaching changes might involve significant changes to the nature of property rights attached to water permits to facilitate transferability. Were strengthening of the property right contained in water permits to be considered, it would be necessary to address appropriate processes surrounding the transition to the new set of rights, including how existing rights should be treated and the potential role for tendering in the distribution of currently unallocated fresh water.

10.9.2 Benefits

Enhancing the transferability of water permits would potentially lead to an improved overall system of water allocation and use. To the extent that trading facilitates the reallocation of water resources, the first-in first-served approach to making initial allocations would be of less concern. Similarly, where initial administrative allocations turn out not to be the highest valued use, trading potentially allows this to be corrected over time reducing the need for councils to review allocations. In turn this would potentially provide greater certainty for investors, with reviews of allocations primarily driven by environmental factors rather than the need to provide for other uses. The emergence of a price for water would also provide incentives for technical efficiency in use.

10.9.3 Risks

Barriers to improved transferability have been identified as including:

- negative perceptions by permit holders and others (including Māori), and a view that water should be linked to land
- the small size of many New Zealand catchments limiting the potential net benefits in terms of gains from better use of water as compared to the transaction costs involved in facilitating increased transferability
- the nature and duration of water permits.

In the context of increased transferability it would be important that arrangements appropriately:

- manage potential environmental impacts. With enhanced transferability ‘sleeper permits’ may be activated leading to a higher level of abstraction than has occurred in the past. In this context it is desirable that Component 4 also forms part of any package providing for initiatives for improved transferability
- provide protection to third parties (eg, downstream users), especially where as a result of a trade a given gross abstraction involves a significantly different return flow
- provide protection for the interests of freehold owners of leased land, so that land was not left devalued or unusable on the expiry of a lease because the lessee had permanently alienated all water permits formerly used on that land.

The options involving more far-reaching changes may raise sensitivities among Māori and the broader community to the extent that they are perceived as privatising freshwater. While the introduction of a resource rental (Component 8) may address this to some degree, where water is already allocated under existing permits much of the value of any new right would already have been transferred to permit holders, with many of them having paid for this value in the price paid for land.

There is a risk that, while this approach might facilitate the transfer of water to most valued economic uses, it would not necessarily facilitate transfer of water to enhance social, cultural and environmental values (unless used in conjunction with other components such as improved strategic planning and/or the setting of allocation criteria). More limited measures to enhance transferability which offer increased provision for temporary or partial rather than permanent transfers, or do not strengthen the nature of the right contained in water permits, are less likely to give rise to risks associated with perceived privatisation in terms of either public sensitivity or the Treaty of Waitangi.

10.10 Component 10: Increase certainty of rights specified in water permits

10.10.1 Description

This component involves exploring changes to the way water permits specify rights and might include:

- making consents more secure and restricting the ability to review conditions
- changes to the duration of consents, including extending the maximum time for issuing consents
- introducing policy (at regional or national level) about protection of the interests of existing users rights.³²

10.10.2 Benefits

The strengthening of rights would provide for more certainty over the medium to long-term for the consent holder. While this would secure investment in the relevant catchment and provides certainty for potential new entrants into the market, the extent to which this would impact on investment is unclear. There is no strong evidence that in practice current processes are a significant barrier to investment.³³ The situation might, however, change rapidly if a council did not renew a permit in the context of managing a fully allocated waterbody and competition for available water.

³² Changes being considered in the RMA review may provide for this.

³³ MAF Policy & Ministry for the Environment (2003): Property Rights in Water, A Review of Stakeholders' Understanding and Behaviour, report prepared by Harris Consulting & The AgriBusiness Group.

10.10.3 Risks

Unless significantly more reallocation by trading occurs, there is a risk that measures increasing the duration of consents or the likelihood of renewal would lock water resources into lower value and/or inefficient uses. Such measures also make it more difficult to manage adverse effects and environmental bottom lines, especially in response to changes in the environment (eg, future shifts in rainfall patterns). Protection of instream values by means of water conservation orders may be constrained by 'locking in' consents for longer terms. Changes perceived as providing users with firmer rights may involve public sensitivity and raise concerns about Treaty of Waitangi issues.

11 Policy Packages to Improve the Water Allocation and Use System

Ten possible components for reform have been explored in a preliminary way in this paper. Many of the components are mutually supportive while others present distinctly different approaches to addressing aspects of water allocation and use. It is expected that final recommendations for change would be composed of a number of these components. Officials consider that all ten components should remain as viable and open for further analysis and consultation.

The components may be packaged taking account of the differing underlying philosophies. These can be described as two main groups of approaches:

- regulatory and planning approaches
- market-based approaches.

While these may be seen as opposite ends of the policy spectrum, the spectrum is best viewed as a set of scales. Decision-makers can choose to be at either end of the scale or somewhere in between, using a mix of both types of approach. It is often the case that a mix of approaches provides a mutually supportive policy atmosphere while enabling better functioning of tools across the spectrum.

The water allocation team has put together four packages that cover a range of positions along the scale. The packages begin with a ‘basic essentials’ package that includes components that should be undertaken as part of any policy reform. Two packages are then presented which sit towards the ‘regulation/planning’ and ‘market instruments’ ends of the policy spectrum. Finally, a package is presented that illustrates how the regulation and market-based tools might be mixed.

These instruments can be applied at the local, regional or national levels as well, adding a further dimension to the choice of policy approach. The degree of ‘depth’ possible will depend upon the specific option chosen within each component and will be examined in more detail during the consultation and evaluation phase of this work. It should be noted that regardless of the position on the policy spectrum that any approach will have information and capability requirements in order to be designed and implemented effectively.

11.1 Basic essentials package

The basic essentials package consists of three components:

- strengthening water planning processes
- setting allocation limits
- improving Māori participation and engagement in process.

Officials believe that these three components should be included in any proposals for change and hence form a core around which the other packages are based. This package is extending and strengthening the current (status quo) approach and offers the potential for minimum change in terms of process and risk. It is likely that these three components can be implemented in a relatively short timeframe (depending on the specific option chosen) – **they represent an extension and refinement of current practice rather than a significant change in current practice.**

In terms of the team’s definition of a ‘good’ allocation process, the basic essentials package:

- **will encourage adequate processes** to enable sound decisions to be made about how much water should remain in water bodies and how much can be abstracted
- **will, in a very limited way, encourage** processes that are more likely to lead to the allocation, **but not** facilitate the reallocation, of abstracted water to the highest environmental, social, cultural and economic values
- **will encourage, to a limited degree,** systems that encourage technical efficiency in the use of water.

The package, on the whole, is relatively low risk to implement. The three components are not seen as being controversial and acceptance from stakeholders will not be difficult to achieve. A robust consultation process is essential to ensure that the ‘right’ specific options within each component are implemented in the most appropriate way.

The higher risk in the context of this package is that some specific issues identified as problems are not addressed (eg, the problems with reallocation and first-in, first-served). This situation is also likely to worsen over time potentially resulting in more difficult or costly solutions in the future.

11.2 Regulatory and planning package

The regulatory and planning package consists of the basic essentials plus three additional components:

- strengthening protection of instream rights
- modifying the first-in first-served system for water allocation using regulatory-based approaches
- introducing measures to improve technical efficiency in the use of water.

In the case of the former two components, this may require legislative change. The latter component can be implemented under current legislation and may involve reviewing and updating consent conditions – a process in itself which may be controversial for some water users.

This package focuses on ensuring that the environmental and other instream baselines are protected. Once this is achieved then there is opportunity for consents to be evaluated using a modified system (such as comparative assessment) and to specify efficient use within this process, thus giving a greater scope for the community to set broad strategic priorities for water use (and hence linking directly to the Long-Term Council Community Plan process). The increasingly efficient use of water should then enable further water to be entered back into the system for either instream or other uses. There is no modification to the transferability provisions, which would remain as currently defined.

In terms of the team’s definition of a ‘good’ allocation process, the regulatory and planning package:

- **will encourage adequate processes** to enable sound decisions to be made about how much water should remain in water bodies and how much can be abstracted
- **will, in a limited way, encourage** processes that are more likely to lead to the allocation and facilitate the reallocation of abstracted water to the highest environmental, social, cultural and economic values
- **will provide systems** that encourage technical efficiency in the use of water.

This package has components that range from low to medium risk. The most controversial aspect is likely to be initiatives to strengthen the protection of instream rights. While this is likely to be welcomed by stakeholders with a strong interest in environmental outcomes, some water users will be concerned that these changes will reduce the amount of water available for abstraction and increase the costs of accessing this water. Consultation will assist in managing these risks by enabling greater understanding of the concerns of both groups.

Existing users may perceive particular threats to their rights especially where there may be more water allocated for instream uses and the consent evaluation process may have been modified. With this in mind, there may be a need for a transitional period to ensure there is certainty for both instream and abstractive users of water. This will depend, to a large degree, on the specific options chosen within these components and appropriate risk mitigation will need to be taken in each case.

Although this package covers many of the problems highlighted in this paper, there are key areas still to be addressed, such as reallocation. The lack of measures within this package to improve arrangements for the transferability of water poses a high risk for the long-term ability of this package to deliver the required outcomes.

11.3 Market instruments package

The market instruments package consists of the basic essentials plus five additional components:

- modifying first-in first-served using market-based approaches
- enhancing transferability of water permits
- emergence, as a result of water transfers, of financial incentives to improve technical efficiency in the use of water
- establishing a resource rental for water
- increasing certainty in specification of rights in water permits.

This package is focused on introducing flexibility into the process of allocation and reallocation of abstracted water, with this set in the context of improved planning processes and the setting of allocation limits to provide appropriately for the protection of instream values. The combination of measures to provide greater certainty of rights and to enhance transferability are intended to be mutually supportive, mitigating the risk that any strengthening of rights would impact negatively on the allocation and use system. The emergence of a market value for water as a result of more widespread use of transfers would create a financial incentive to increase technical efficiency.

The need for a resource rental for water will depend upon the success of the other components set out above. It may be included as part of this package to address public sensitivities by providing a return to the community from granting private access to a community resource and reinforcing incentives for efficient use. With this in mind, this component may be included in any package, but is characterised as a market tool for the purposes of this paper.

Most aspects of the transferability component can be accommodated without legislative changes and, indeed, some transferability provisions are already available to regional councils. A resource rental and alteration to rights are likely to require some form of legislative change.

In terms of the team’s definition of a ‘good’ allocation process, the market instruments package:

- **will encourage adequate processes** to enable sound decisions to be made about how much water should remain in water bodies and how much can be abstracted
- **will, to some degree, encourage processes** that are more likely to lead to the allocation and facilitate the reallocation of abstracted water to the highest environmental, social, cultural and economic values
- **will provide systems** that encourage technical efficiency in the use of water.

On the whole, this package is a medium to high risk one. There are potential public sensitivities and Treaty of Waitangi concerns, as the suggested measures may blur the distinction between rights to use water and ownership of the resource, leading to the perception that freshwater is being privatised and bringing the question of the Crown’s sole right to use and allocate water into sharper focus.

These risks (and the potential costs to both the Crown and Māori), while significant, can be managed. One possible risk management approach is a process which seeks to engage Māori on broader water allocation issues in a manner which gives proper weight to the Crown-Māori relationship, and encourages the exploration of solutions which address the interests of all parties. It is also likely that it will be easier to resolve these issues now rather than later, given that the complexities of water allocation will increase over time as the water resource comes under more and more pressure and the value (and scarcity) of water increases.

The use of market-based approaches to allocate water between users will need careful consideration of existing users’ rights. It may be more appropriate to ensure that any water that becomes newly available is allocated using market means rather than using these means for a substantial overhaul and reallocation of existing water use.

Although the focus in this paper has been on value in its widest sense, this package may be perceived by stakeholders as one that focuses attention purely on the economic value of water use. This perception may also be compounded to the extent that changes in the way rights are specified in water permits are perceived to, or actually, strengthen current users’ rights. However this will be balanced out by the ‘basic’ components which aim to ensure that instream values are protected. There is also potential for incorporation of some of the elements of Component 4 (eg, setting conditions to link permits to a percentage of flow) to address these concerns. Extensive consultation and information would be required prior to this package being implemented.

11.4 Illustrative mixed package

Officials have developed an illustrative package that uses elements from both regulation and market policy tools and provides an example of how they might be combined. This package consists of the basic essentials plus three additional components:

- modifying the first-in first-served system for water allocation using regulatory approaches
- introducing measures to improve technical efficiency in the use of water
- enhancing transferability of water permits.

Under this package, a modified system for allocation will ensure that the instream values are protected fully, whilst introducing flexibility into the system via enhanced transferability. The modification of first-in, first-served ensures that any competing uses can be compared with the objective that water is allocated to uses (including instream uses) with the highest social, cultural, environmental and economic values. Increased transferability provides a mechanism for overcoming any problems in initial allocation and allows ongoing reallocation over time.

In terms of the team's definition of a 'good' allocation process, the suggested package:

- **will encourage adequate processes** to enable sound decisions to be made about how much water should remain in water bodies and how much can be abstracted
- **will encourage processes** that are more likely to lead to the allocation and facilitate the reallocation of abstracted water to the highest environmental, social, cultural and economic values
- **will provide systems** that encourage technical efficiency in the use of water.

While some components of this package are fairly easy to implement and relatively low risk, other components, such as modifying the first-in, first-served system, will require legislative change. In this respect, the risks around this package are mixed, but may be mitigated via a robust consultation process which increases understanding of the implications and potential uses of various measures.

This package does not address any of the 'rights' issues that have been identified throughout this paper.

12 Conclusions

As some freshwater resources approach full allocation and there is increasing competition for this resource, it is unlikely that the current systems and processes for the allocation and use of water will optimise the potential for sustainable development. There is a risk that current processes will not deliver an appropriate balance between desired environmental, social, cultural and economic outcomes and that water will not be allocated and reallocated over time to the highest environmental, social, cultural and economic values.

In the absence of change some improvements in current processes may occur as regional councils gain more experience and take up the potential of the existing system more fully in response to pressures created by increased competition for freshwater resources. Without reform the extent and pace of this change is however very uncertain. Further, this will not be sufficient to address the underlying weaknesses in the current system and will not achieve the sustainable development outcomes we are seeking.

A range of tools with potential for improving the current system has been identified. These tools carry varying benefits and risks and consultation is required to minimise risks and select an appropriate mix.