

TRADEABLE RIGHTS FOR COMMERCIAL WATER: WITH THE BEST USE SOLUTIONS MODEL

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WHAT IS THE PROBLEM?

- When we had much more fresh water than anyone almost ever needed, first-in worked quite well.
- In major parts of the country we now have potential users unable to access water unless they purchase the land off someone who has a right to access water and the Council agrees to make the transfer. Access to water has a major impact on the value of land.
- In some areas, we are facing limits on the absorptive capacity of rivers and streams, such that the quantity of water left in the stream or river is becoming an issue for downstream users.

WHAT IS THE PROBLEM?

- Fresh water in a river, unlike in a bottle on the shelf, is not a commodity as its value is significantly impacted by its location and quality. We are not indifferent as to where we access our fresh water.
- The impact of the weather on water availability means that rights which promise a fixed amount of water in all circumstances must be an unrealistic promise for some users.
- These issues all are harder to resolve while the ownership of fresh water itself remains in dispute.

IS IT A NEW PROBLEM?

- No, it is not new. Until the arrival of the RMA which put a sunset on water licenses for mining applications, those mining water rights were tradeable.
- When I visited the Tairāwhiti Museum in Gisborne earlier this year, I noted a reference to local Iwi writing to the representative of the Crown in the late 19th Century, the Governor, seeking advice on what they should charge for water. It would seem at least one East Coast Iwi believed the water was theirs to sell, that sale of water was not objectionable, and the only advice being sought was on what to charge. This might point to a future solution.
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Know what you have and who is using it

Metering and registration of rights.

Know the constraints, particularly for water quality

The science to set baselines, and quantify and set constraints.

Ability to incorporate natural variability

Making rights a percentage of what is available, or ranking entitlements in priority.

Has to be able to work for new entrants

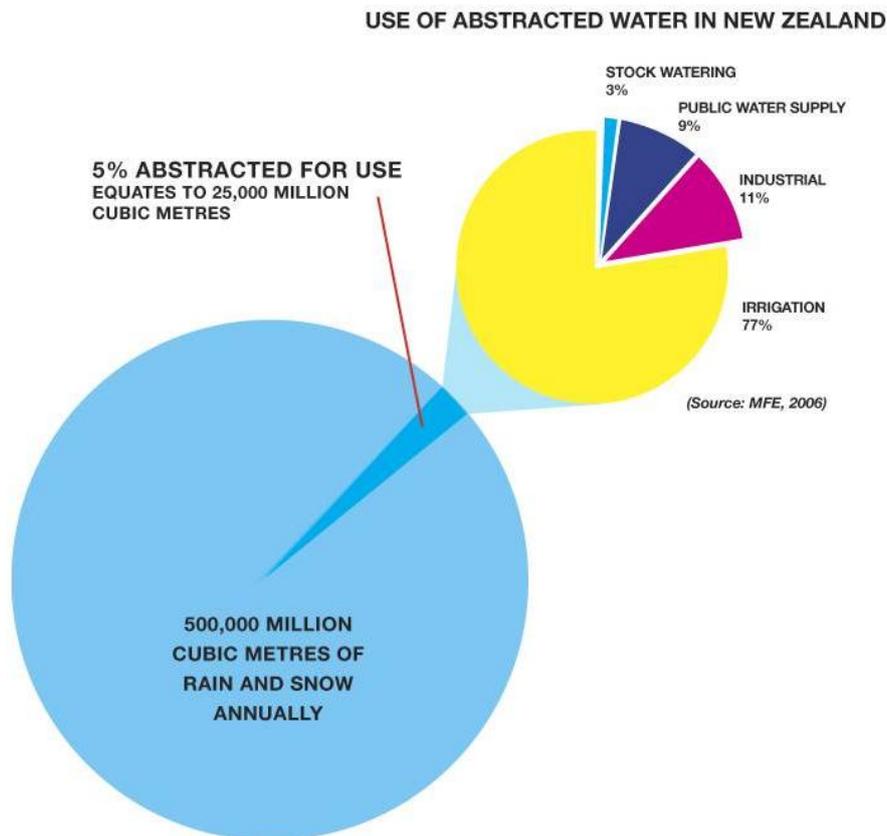
Transferability of entitlement and separation of take and use rights.

Has to see water end up in its highest value use

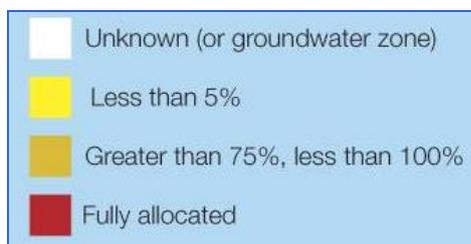
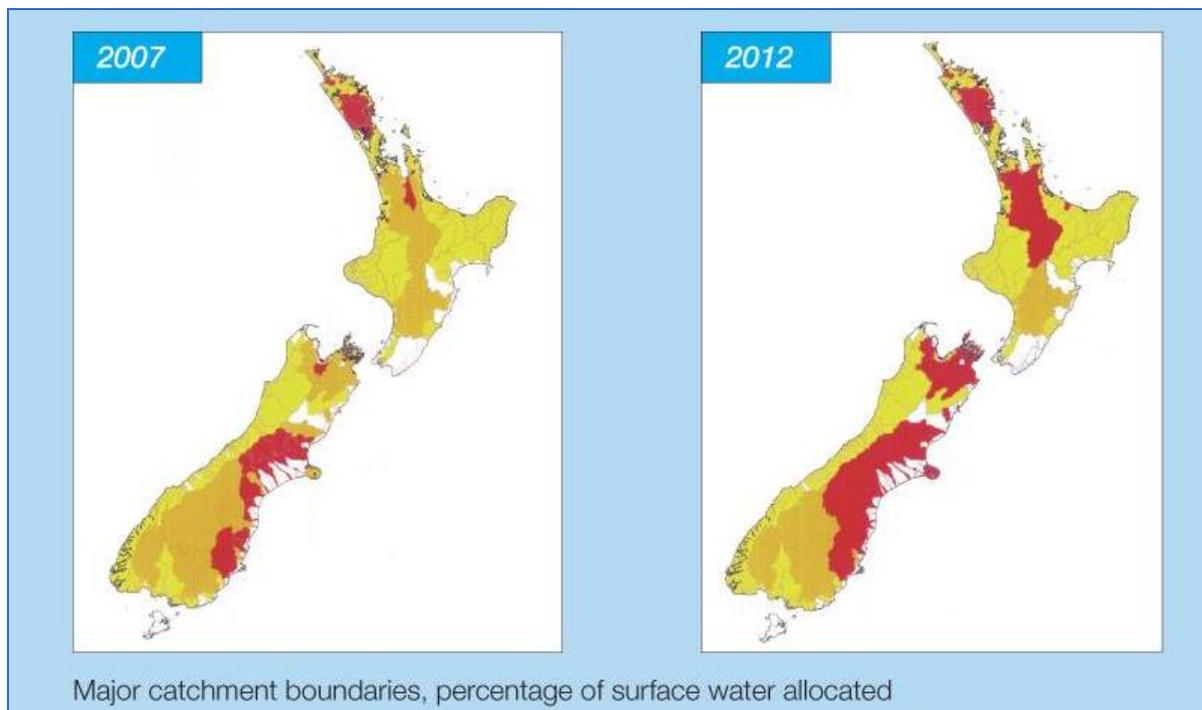
Allowing the community to decide non-commercial allocations combined with tradeability of commercial entitlements to enable moves to higher value users.

PRECONDITIONS FOR SUCCESS

THE RESOURCE – WHERE DOES IT COME FROM?



SURFACE WATER ALLOCATIONS 2007 – 2012



- Most regions have at least one river or aquifer that is either fully or over allocated, or likely to become so in the next 1 to 5 years
- The known available water resource over a significant proportion of New Zealand

in our highly populated and main agricultural areas is expected to be fully allocated by 2012

- Major economic and environmental gains are possible from allocation improvement

THESE ARE NEW ZEALAND’S PRINCIPAL FRESHWATER PROBLEMS, AND THE SOLUTIONS WHICH CAN BE DELIVERED BY THE BEST USE SOLUTIONS ARISING FROM BUSINESS COUNCIL RESEARCH:

QUANTITY	Freshwater water resources in the populated and most intensely farmed parts of NZ will soon be fully ‘allocated’. Limited ability to transfer surplus allocated but unused water.	Tools to measure and manage water takes and flows and enable water use transfer.
QUALITY	Public concerns over declining quality and clean up costs. Many water users have concerns about quality (didymo, algal bloom, mercury levels etc).	Cap and trade for contaminant discharges, to live within the limits of capacity waterways and groundwater to assimilate them. A benefit for users that will reduce contaminants.
EFFICIENCY	Poor incentives to improve use or efficiency because users don’t pay for higher reliability and use-it or lose-it encourages inefficient uses.	Pricing and tradable entitlements will provide incentives for more efficient use.
PLANNING	Politicized process with little Central Government guidance; lack of tools for setting environmental baselines. Decision making process increasingly litigious.	Complete policy tools e.g. NPS, NES provides greater certainty of what is available to take and how to decide on use.
ALLOCATION	Few regional plans have set allocation limits. Lack of monitoring and metering of resource and use.	Allocation of all water to one of four primary pools. Only one of these pools is for consented use where transfers are allowed.

		Metering required.
RISK	Every user wants access to maximum allocation with the highest reliability. In times of shortages, ecological impacts an dramatically increase. The current system does not reflect the natural variability in water flows.	Improve knowledge of reliability for greater certainty of supply; Require users to take proportional shares in water available for taking. The majority of the risk of changing volumes is then with the users.
INVESTMENT	Uncertainty around honouring existing take levels and length of consents – affects long term investment because past “promises” may not be able to be kept. Regional Councils manage uncertainty by keeping consent durations to a minimum.	A 35 year+ 35 year term for access entitlements to water should enable access holders to underwrite long-term investment (irrigation schemes or hydrogenation).
LONG TERM STRATEGY	No opportunity to take a strategic view; current assumption is that clean water will always be available in catchments even once full allocation has occurred.	Long term strategic focus on future demands on a catchment taken by Regional Government with Central Government guidance. Water continues to be used but can be earmarked for future use (New town, new industry etc).
KNOWLEDGE	Limited knowledge about some aspects of water resources (e.g. who uses how much and where what are the assimilative capacity limits) makes management, decision making and planning difficult.	Ongoing and strategic investment in development of knowledge of water resources, which can be shared, particularly in regions and catchments short of water.

IMPACTS

Stakeholders	Problems or mix of problems	Key problems with the current framework
Environmental Interests		<p>The quality of water is not managed adequately, including discharges from non-point sources, e.g. runoff. Also the current framework manages water in a way that is often disconnected from community values and priorities. This means that environmental and in-stream values are not well protected.</p> <p>Over allocation means river flows are depleted and groundwater levels are reduced.</p> <p>This exacerbates quality problems associated with discharges and concentrations of contaminants in the water.</p>
Recreation and In-stream interests		<p>There is no long term strategy for quality frameworks which maintain and improve freshwater quality.</p> <p>The current framework fails to appropriately assess the need for community use and in-stream requirements of water, bundling these together rather than making each of them transparent.</p> <p>In-stream interests are bundled with environment resulting in community values being traded off as environmental needs are compromised.</p> <p>Community instream interests are at risk due to the quality and quantity issues arising in some catchments.</p> <p>There is limited guidance in how to address multiple values (e.g. community vs economic) in planning</p>

<p>Irrigation interests including storage</p>		<p>There is an inherent risk of freshwater supply and quality, as part of a natural system affected by weather variability.</p> <p>This is not well handled.</p> <p>Because of the uncertainty surrounding the duration of consents and water reliability, irrigators are unwilling to invest in schemes without a community or Government underwrite.</p> <p>The current framework does not provide for a strategic assessment of future water opportunities and options. Furthermore, security of existing or future supply is difficult to guarantee, which impacts negatively on investment decisions.</p> <p>Consents given under the RMA currently cannot separate access to water from local effects of take and use.</p> <p>This effectively ‘locks’ up water that could be used without compromising environmental standards.</p> <p>The time cost of existing transfer processes are significant, which makes temporary transfers impractical.</p>
<p>Central / Regional government</p>		<p>There is no way and insufficient knowledge to strategically assess future water opportunities and options. The ability to do this could avert future water crises.</p> <p>The current situation promotes a generalised approach to water management, which fails to recognise specific resource issues at catchment level for each stakeholder.</p> <p>Administration is becoming expensive as we approach full allocation, and as management systems are implemented to address situations of over allocation.</p> <p>Legal challenges are common.</p> <p>There is low knowledge of the actual volumes being abstracted, in part because of insufficient metering of takes which increases the chances of</p>

		<p>catchments being over allocated.</p> <p>Consents given under the RMA currently cannot separate access to water from local effects of take and use, which effectively ‘locks’ up water that could be used without compromising environmental standards.</p> <p>There is limited guidance in how to address multiple values (environmental, economic, cultural, in-stream, national vs regional) in planning.</p> <p>A lack of national guidance, together with difference in pressures across the regions for water has resulted in regional variance of planning effectiveness.</p> <p>Funding is a key constraint preventing councils doing something more or better.</p>
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IMPACTS

Stakeholders	Problems or mix of problems	Key problems with the current framework
Municipal supply		<p>The costs associated with improving water quality are being met by the user at the point of take, rather than upstream dischargers who create the problem. It is difficult to properly assess future opportunities and options for use of water e.g. security of supply for growing populations in high demand catchments. There is a need to be able to ‘future-proof’ water supply for increasing populations.</p>
Iwi		<p>The current framework in many cases has proven unable to incorporate customary rights-under the Treaty of Waitangi-into local water allocation and use.</p> <p>It is important that mahinga kai species and habitats are protected.</p> <p>Iwi rights under the under the Treaty of Waitangi in</p>

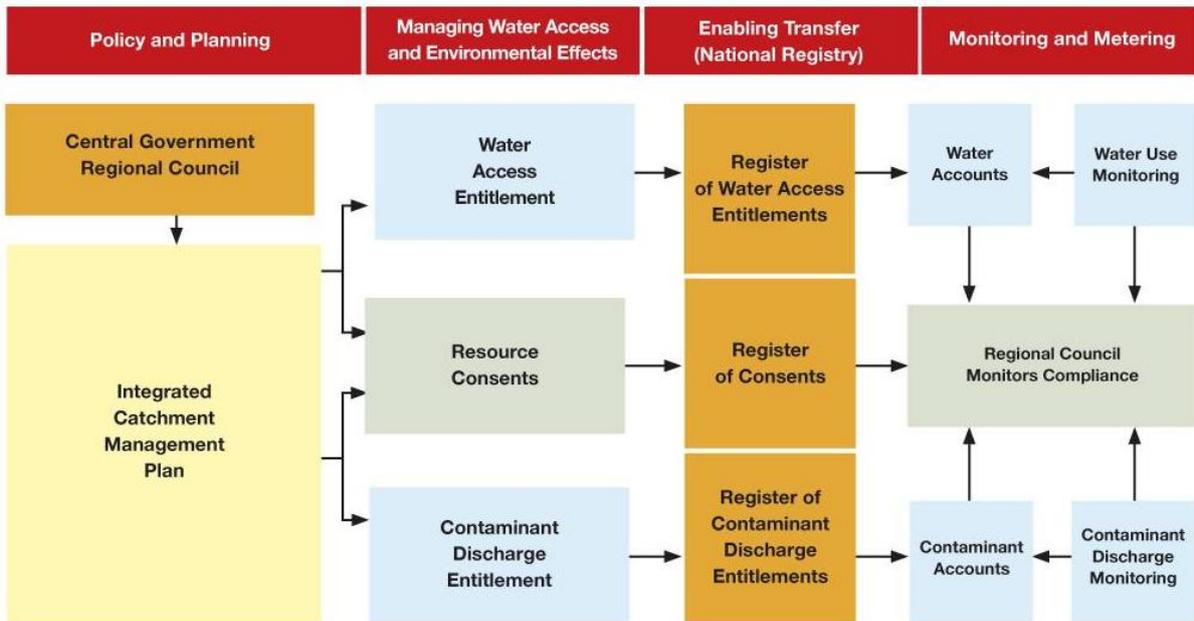
		<p>respect to freshwater resources have yet to be resolved.</p> <p>Iwi have concerns over future access to water in water short catchments for Maori land use needs including the development of land returned by claim settlements.</p> <p>Iwi have concerns over long term strategic planning and current use of the resource particularly in respect to maintaining and improving quality of the resource where this may restrict the ability of iwi to develop their land.</p>
Hydro and other power generators		<p>The current framework does not provide a way to properly assess strategic water opportunities and options across New Zealand or within a catchment.</p> <p>The current framework results in a high level of competition between existing users and new users resulting in expensive litigation.</p> <p>It also fails to provide long term security of supply and therefore impacts investment security and decisions.</p> <p>There is no national guidance in respect to national benefits for hydro generation in local decision-making.</p>
Industrial users		<p>It is very costly and impractical to transfer water to higher value uses.</p> <p>Beyond living within resource consent conditions, we have no incentive to improve discharge quality; and no incentive to be more efficient with water consumption.</p>
New users and potential investors		<p>There is very limited availability for new users who want access to water in water-short catchments. The cost of accessing entitlements from existing land owners is often prohibitive. There is concern that some allocations are being made that will not be able to be supplied due to over allocation of volumes.</p>

All stakeholders	<p>The current framework allocates water on the basis of existing traditional uses rather than the best current / future use.</p> <p>There are major concerns about the deterioration of the quality of our water resources despite regional planning and other government interventions.</p> <p>A lack of knowledge about some aspects of our freshwater resource means the assessment of future opportunities and options cannot be carried out.</p> <p>The current framework has no way to assess value, so water doesn't go to the highest value use.</p> <p>Water allocation is based on effects management of the resource (with limited knowledge of aspects of the resource, particularly quality and limited national guidance) which impedes longer strategic planning.</p> <p>Regional plans do not specify allocation limits, so how much resource is available for use is not clear.</p>
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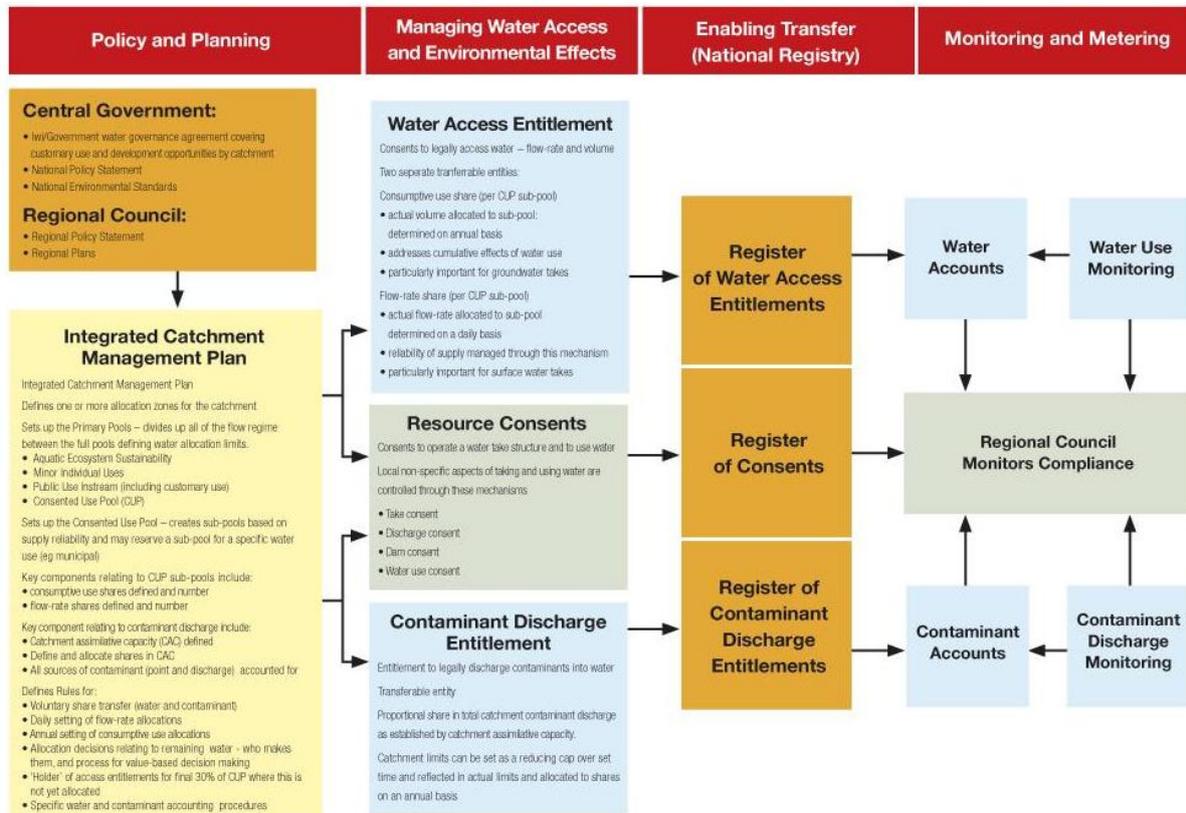
WHAT DID WE RECOMMEND?

The Key Elements

- Statutory planning
- Management of allocations and effects (unbundling take and use consents, access entitlements)
- Consumptive use shares (not absolute amounts)
- Keeping records (entitlements, allocations, quality, quantity, transferring, water accounting, measuring and monitoring)
- Improved quality management tools



THE BEST USE SOLUTION



Tools for management of effects relating to quality

STRUCTURE AND FEATURES OF THE BEST USE SOLUTION

“It is important to note that while the Best Use Solution is a fresh approach to water management, many of the components are a wider application of current practice and tools used in New Zealand and internationally.”

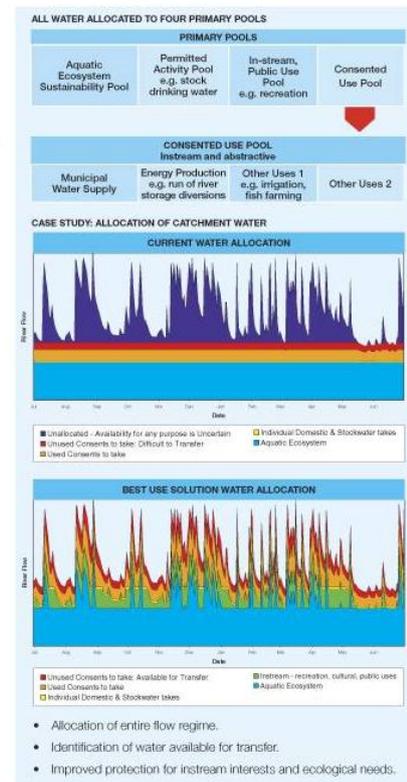
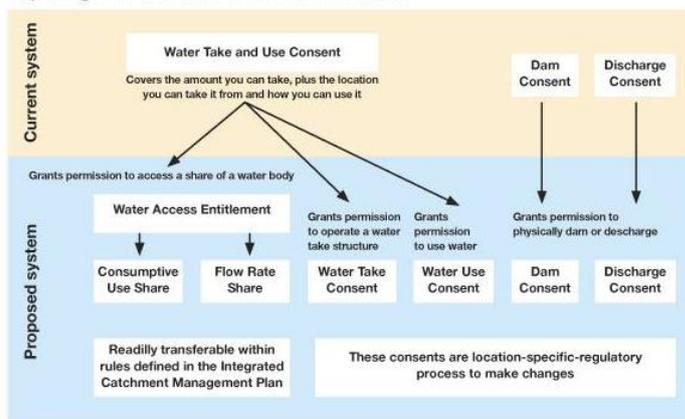
The major improvements proposed in the new model include:

- Introducing a new tool to put a cap on non-point discharges into the receiving water body. With other new features, this will allow a “cap and trade” system to manage these non-point or point discharges to live within the assimilative capacity of our waterways
- Separating water access entitlement from resource consent
- Proportional shares of the water available for taking
- Adopting integrated catchment

management plans for all water planning at a regional level

- Establishing a registry to facilitate water accounting and quality management and voluntary transfer of water.
- Improving monitoring and metering of takes and assimilative capacity limits
- Improving quality management tools

Key Changes to Resource Consent in Best Use Solution



MANAGING WATER QUALITY

The mixed planning and market solution adopts the quality management tools of our current freshwater management system, and introduces tools to manage the adverse cumulative effects

Key

	Extension of existing tool
	Existing tool
	New tool

TOOL	MANAGEMENT FOCUS	RELATIONSHIP TO QUALITY
CONSUMPTIVE USE SHARE	Manages cumulative effects of consumptive use	Placing a limit on this share, i.e. the cap on allowable volume of water removed per year from a catchment – protects groundwater and surface water. A catchment’s assimilative capacity is dependent on the size of this cap, so total volume of water to be defined alongside setting the assimilative capacity limit.
FLOW RATE SHARE	Manages cumulative effects of takes and dams on flow regime	This share is based on the limit on the total flow-rate able to be taken from a river. This is required in order to protect the environmental and in-stream flows.
WATER USE CONSENT	Manages effects of use on water bodies that receive drainage water	Specific conditions on use can be developed to suit particular circumstances such as: <ul style="list-style-type: none"> • Land use changes; • Resultant downstream effects on water bodies receiving discharges or drainage.
WATER TAKE CONSENT	Manages site-specific local effects (excluding effects on flow regime)	This tool specifies conditions relating to effects on adjacent water takers, maximum rates of take, or structure-specific conditions like fish screen details.
DISCHARGE CONSENT	Manages effects of discharge on water bodies that receive discharge	Specifying the water of discharges is an incentive for higher standards (<i>total discharge limits for catchment based on assimilative capacity limits</i>).
CAP AND TRADE	Manages the cumulative effects	This mechanism specifies: <ul style="list-style-type: none"> • The quantity (or limits) of

MECHANISM FOR POINT AND NON-POINT SOURCE DISCHARGES	of land use on water bodies receiving non-point source discharges	<p>contaminants in the water source;</p> <ul style="list-style-type: none"> The boundaries on discharge levels determined by the community. <p>This tool can be used to reduce the overall cap over time to reach a specific goal.</p>
LAND USE CONSENTS	Manages how land is used to minimise adverse effects	Currently the major tool available to manage quality, voluntarily tradeable assimilative capacity limits should enable Regional Government to manage quality without direct restrictions or control on land use.

IMPROVEMENTS NEEDED TO EFFECT THE BEST USE SOLUTION

	Responsibility	Currently in development	Framework adopted 2010	2011	2012	2013	2014	2015	2016
RMA	👤								
National Policy Statements and National Environment Standards	👤	NPS for freshwater, NES environmental, flow; NES metering.	Further NES developed eg assimilative capacity.						
Governance	👤	for example, Crown and Waikato Tainui Approval in Principle regarding claim over Waikato River							
ICMP	👤	Guided by NPS	Develop example ICMP's and guidelines						
Registry	👤			Establishment					
Metering	👤	Guided by NES				User Pays portion			
Priority list of catchments	👤								

Prioritisation of development of ICMPs

The prioritisation of catchments requiring development of Integrated Catchment Management Plans would follow the process outlined below:

Key	
High Priority	🔴
Medium Priority	🟡
Low Priority	🟢
No Change	🟩

Initial Catchment Consented Use Pool (CUP) allocation	Transition Steps after RMA Changes and, National Policy Statement and National Environment Standards
<p>Areas where CUP is over 100% allocated:</p> <p>Allocation limits have not been set, high demand for water likely over next five years.</p> <p>Likely to include Canterbury, Waikato, Otago and the Nelson/Marlborough area.</p>	<ul style="list-style-type: none"> Establish or review existing ICMP setting minimum flows, risk bands, zones and assimilative capacity/limits Proportional "haircut" for all existing CUP users based on new limits if lower than existing allocations for quantity and quality Unbundle consents (consents to take and use from the physical water entitlement) Trading in entitlements then allowed
<p>Areas where CUP is over 70 to 100% allocated:</p> <p>Allocation limits not set, high demand for water likely over the next five years</p>	<ul style="list-style-type: none"> Suspend first-in, first-served approach Establish or review existing ICMP, setting minimum flows, risk bands, zones and assimilative capacity limits etc. Decision on strategic allocation of unallocated water <ul style="list-style-type: none"> Option to hold, tender or transfer remaining last ≤ 30% (eg for a new town or planned industry) Decision made in accordance with rules specified in ICMP Unbundle consents Trading in entitlements allowed (may include temporary trade of water held for future strategic uses)
<p>Areas where CUP is under 70% allocated</p>	<ul style="list-style-type: none"> No change: First-in, first-served system until the technical allocation approaches 70%
<p>Existing water conservation orders</p>	<ul style="list-style-type: none"> No change is proposed Improved and increased metering and monitoring of all takes and discharges, consistent with the NES

WHAT HAPPENED TO OUR REPORT?

- The Government has largely adopted the framework that we recommended.
- The Land & Water Forum, with our enthusiastic support, has reported on a broad consensus on the future of freshwater management.
- We believe that it is crucial that key decisions are made about future freshwater management this year. Unfortunately, the Government says it will be unable to legislate in this area until after the next general election.

ISSUES THAT STILL HAVE TO BE RESOLVED

Maori Aspirations

- How can Maori aspirations for water management be included in the future framework?
- A lack of recognition and respect for Maori water rights in the practice of current water management, means this issue will be problematic until we have broadly agreed bases for addressing both Maori traditional rights and opportunities to participate in water-based economic development. The Land & Water Forum Report marks some progress on this issue.

Managing both quantity and quality

- New Zealanders overwhelmingly want both economic growth and to maintain our quality of life (both the physical and social environment).
- Suggestions have been made that we should fix the water quantity problem and leave the quality issues for later, because they are harder and more expensive to fix.
- Our strong recommendation is that in water-stressed catchments, both issues are tackled together. The absorptive capacity of a waterway is directly linked to the volume of water in the river or stream. We can't fix quality issues independently of quantity management, and in already stressed catchments water should not be further allocated until absorptive capacity limits have been set.
- The alternative is likely to see massive compensation payments further down the track. The clean up of the Rotorua Lakes alone is budgeted at \$144.2 million.

Issues for agriculture

- In a world going from 6 billion to 9 billion people, we should have no difficulty selling more quality food, but for this we need water and cleaner streams. We need the water to increase production, and the cleaner streams to keep the consumers happy.
- The recent discussion about the McKenzie Basic proposed factory farms shows how sensitive this issue has become, and the urgency of having a freshwater policy that addresses both the water quantity and quality issues.
- The potential for increased water storage is real, but our current arrangements in particular the relatively short duration of water entitlements which don't align with the life of capital-intensive

water assets like irrigation schemes and hydro-dams, points to the need to get these issues resolved.

- The second-best solution of publically funded irrigation schemes is likely to produce the worst experiences of our past –
 - ✘ Gold-plated proposals;
 - ✘ Cost over-runs in construction;
 - ✘ Low return assets for the Crown, as the assets have no alternative value for anyone other than the users in the locality.

WHO IS LOOKING AFTER THE NEXT BEST USE OF WATER?

To date, many of the proposals are basically creating a “club” for existing users in one locality to decide how the water is used. This raises several issues:

- While people talk about our water as if it belongs to the catchment, legally it is owned by the Crown although there are other potential claimants.
- We proposed a proportional “haircut” in over-allocated water catchments to live within any revised limit, and then trading to allow the highest value commercial user to get access. For community use, the community through the political process would determine who had the best or highest value use.
- This was the default option that we believe would encourage the parties to come to a sensible accommodation before the initial allocation occurred. However, the next best use may not be a current “club member”. Any robust long-term solution needs to

recognise that the next best use may be something we have not yet imagined.

Whatever solution emerges, it has to accommodate the emergence of a new higher value use and for voluntary transfers of water.

BUILDING THE SCIENCE BASE FOR QUALITY DECISION-MAKING

- Setting baselines and absorptive capacity limits has to be science-based. Our advice was that we are more advanced in understanding quantity issues than we are for the baseline conditions with respect to quality and the absorptive capacity of waterways for nutrients and combinations of contaminants.
- The priority should be to get the science ready in the stressed catchments so when consensus for action occurs we have the information base to make good decisions.

BROAD CONSENSUS IS FINE, BUT IT HAS TO BE ROBUST IN A SPECIFIC CATCHMENT

We will not know if any consensus approach is going to work until it can be shown to work in a range of catchments.

We suggest two means of helping this process:

- A run through of the process in a catchment that incorporates all the major interests – recreation, conservation, agriculture, hydro, horticulture – to see that the approach is robust.
- Amendments to the RMA along the lines suggested in our paper to allow reform as proposed to occur in a non-controversial

catchment where there is an existing will to make such an approach work.

KEY INSTITUTIONAL AND PLANNING CHANGES PROPOSED IN THE LAND & WATER FORUM REPORT

National Land & Water Commission

A non-statutory body constituted on a co-governance basis reporting to Ministers and Commissioners, outside the RMA. Its aims are:

- To develop and oversee implementation of a National Land & Water strategy using a collaborative approach, and would include:
 - ✘ Integrated approach to development of water resources and infrastructure leadership in relationship of water resources and other related nationally significant issues (energy policy);
 - ✘ Help define priorities for data and knowledge about water, recognising existing status;
 - ✘ Recognise and help lead to agreed outcomes on Iwi expectations for water management.

NATIONAL LAND AND WATER COMMISSION

- To advise Ministers on the management of water resources including:
 - ✘ How to improve efficiency and effectiveness of national water management system;
 - ✘ Promote *best use* and practice in water management;
 - ✘ Prioritise water restoration programmes;
 - ✘ Identify opportunities and constraints to water storage.

NATIONAL LAND AND WATER COMMISSION

- Key opportunities and challenges:
 - ✘ Provides a way to integrate the “silos” of current water management, and levels of water management;
 - ✘ Non-statutory status may restrict its ability to deliver leadership.

NATIONAL DIRECTION THROUGH NPS AND NES

National direction for Regional Councils through NPS and NES and other templates, on different aspects of water management:

- Recommendation is consistent with Regional Councils’ recommendations and the Business Council Best Use Solution Report which called for Government to provide leadership through NPS.
- Existing NPS considered by Board of Inquiry needs to be extended and re-drafted.

PERFORMANCE OF REGIONAL COUNCILS

The performance of Regional Councils can be improved through:

- Government appointments to Council Committees.
- Development of non-statutory collaborative regional water strategies.
- Mandatory development integrated regional water plans.
- Adequate Iwi representation.
- Establish and maintain comprehensive water data sets.

- Control land use impacting on water quality.

PERFORMANCE OF REGIONAL COUNCILS

Key opportunities and challenges:

- Additional skills and capacity leads to improved and strengthened existing Regional Council model.
- Better regional leadership.
- Agreements reached through collaborative processes used in developing non-RMA regional water strategies may reduce contestability of plans.
- Decision-making improved through land use controls.
- Better quality management through land use controls.
- Knowing which regions to begin to develop these augmented approaches to Regional Council is problematic, and likely to be driven by pressures on water stressed regions. Addressing the issues of existing water management poor performance may not be resolved by high level strategic appointments when capacity at operational levels is limiting feature.

MONITORING OF PROGRESS AND PERFORMANCE

- Active process of monitoring and performance reporting overseen by Land & Water Commission.
- In addition ,the PCE responsibility for:
 - ✘ Rolling system of two-yearly reports on effectiveness of Regional Councils in achieving national and regional water-related goals;

- ✘ Five yearly review on effectiveness of entire system of land and water management.

MONITORING OF PROGRESS AND PERFORMANCE

Key opportunities and challenges:

- PCE does not have technical expertise available to conduct these reviews without support, and requires additional resourcing.
- Independence of PCE is important in evaluating water management performance or governance.

Thank you

Peter Neilson