REPORT SUMMARY

Refreshing Water

Valuing the Priceless

Eric Crampton

New Zealand deserves far better water management. Scores of newspaper articles and rigorous reports lay out the problems in the current system. Too much water is being drawn in some catchments – to the detriment of aquifers and rivers. Management of contaminants flowing into the rivers is haphazard and too-often poor. While agricultural runoff into rivers and streams has drawn much attention, urban areas are far from blameless.

The Land and Water Forum's most recent advice to Ministers summarised the problem well. Minister for the Environment David Parker in October 2018 committed the government to a two-year agenda for creating an improved freshwater management system.

Improving water management is both good policy and politically necessary. The costs of achieving desirable environmental standards will rise if water quality is allowed to continue to degrade. Not only will the real environmental problem become more costly to solve, but the most effective policy options may also become more difficult to implement. Reactive, costly, and less effective policy will be more likely the longer we wait.

This first report of a two-part series does not seek to re-tread ground already well covered elsewhere. We here instead explore a promising option for ensuring environmental sustainability that respects Te Mana o Te Wai and the economic needs of our communities. We also believe it to be the best way for the government to achieve its objectives in stopping further degradation and loss, and reversing past damage.

The *Essential Freshwater* work programme proposed by the Ministry for the Environment includes addressing water allocation issues to efficiently and fairly allocate freshwater and nutrient discharges.

Successive governments' failure to address iwi water claims, we believe, is at the root of our water woes. Real solutions raised the spectre of costly Treaty claims, and so were avoided. Whether iwi claims can be resolved through negotiations towards regulatory solutions or a full Waitangi Tribunal processs, we believe the game is worth the candle.

Recognising iwi claims is important for its own sake. It is hard not to view rivers as taonga under the Treaty of Waitangi. Reasonable cases have been made that iwi water rights, at least in some catchments, were not extinguished by treaty, sale or contract – although we here hardly claim to resolve any of these claims. We note rather that resolving rights issues around water is an essential part of natural justice. And it can also be the foundation for a better water management system.

Water scientists can tell us the effects of drawing different amounts of water from New Zealand's aquifers and rivers. They can assess whether current rates of water abstraction are sustainable for the long-run health of aquifers, or whether they erode our resources over the longer term. Those assessments are factored into Regional Council plans and inform resource consent decisions.

But what even the best scientists cannot tell us is how best to use water drawn from New Zealand's rivers and aquifers. If a council is faced with two competing resource consents for water drawing and there is only enough water sustainably available for one of those uses, or if a catchment is overallocated and total use must be cut back, how should it decide? First-come, first-served hardly seems the best solution.

Similarly, while freshwater ecologists can tell us the effects of any nutrient loading on a catchment, they cannot tell us whether it makes more sense to reduce the load on an overburdened catchment by reducing the number of dairy farms, by changing on-farm practices, or by improving the nearby town's wastewater system.

Science is critical in establishing the boundaries. But we need more than that to help us figure out how to achieve environmental goals, to build a self-reinforcing political consensus around sustainable outcomes, and to make sure long-term sustainability is in everyone's interest.

America faced a similar problem with sulphur dioxide emissions in the 1980s. Science showed that industrial emissions were overburdening the atmosphere, causing acid rain. It also showed by how much emissions needed to be cut to solve the problem.

But science alone could neither say which factories should close nor which chimneys should install scrubbers to remove pollutants. Policy needed to create incentives for the owners of all these factories to harness their knowledge about their own plants for the public interest in ending acid rain.

How did America end acid rain? Scientists set a cap on allowable emissions. Factories emitting sulphur dioxide were given tradeable permits within that cap. Factories able to cut their own emissions relatively cheaply did so – and sold their valuable excess permits. Other plants that found it more expensive to cut emissions bought surplus permits. And the dirtiest, hardest-to-fix, end-of-life plants could shut down earlier than planned, selling their surplus emissions permits in the process.

Giving existing emitters tradeable emissions permits transformed likely opponents of stricter environmental standards into stakeholders. Later estimates suggested it would have cost $250 million more per year to achieve the same reduction in sulphur dioxide emissions through more traditional regulation.

New Zealand's lakes, rivers, aquifers and bays deserve better management. Doing the most to improve environmental quality requires using the most cost-effective policy tools available.

In this first report, we argue that catchment-level cap-and-trade systems for water abstraction, incorporating both urban and rural water uses, are the best approach for managing water supplies in catchments where water is becoming scarce.

Well-designed and enforced cap-and-trade systems are highly effective in ensuring environmental sustainability. They can restrict water drawing to levels consistent with flowing rivers and aquifers that maintain their levels over time. And they build a constituency that helps ensure the system's sustainability in the longer term.

Our second report will examine the more technically challenging case for cap-and-trade systems for nutrient management. In principle, cap-and-trade systems can ensure emissions are within the bounds set by the catchment's community, keeping rivers, lakes and bays clean. But where cap-and-trade in water abstraction faces policy difficulty in deciding how to allocate initial water rights, nutrient management faces the additional task of defining the tradeable unit in environmentally and economically meaningful ways.

Recommendations

1. Central government should take on the initial set-up costs for system development and implementation.

2. Initial catchment-level caps should not be lower than current use, and should incorporate room for allocation to iwi. We suggest an initial trial in Canterbury.

3. Initial allocations to current consent-holders, whether agricultural, commercial, industrial or urban, can provide permanent tradeable rights, longer-term but non-renewable rights, or a bundle of non-renewable annual rights extending over the same period.

4. The burden of reductions from those initial caps to sustainable limits should be shared between water users and the broader community through a combination of Crown purchases and retirement of allocations, and by a structure of initial allocations that reduce the rights held by current users over time.

5. Sustainable catchment-level caps should be determined by the local community, iwi and hapū. They should be informed by strong environmental science, and by information revealed over time by the trading system.

6. Crown-iwi negotiations could define the minimum river flows consistent with Te Mana o te Wai as being the self-owning river, as in Whanganui, with similar trusteeship rights. The trading system would protect those minimum river flows. Additional water rights awarded to local iwi and hapū above that minimum flow could be left with the river, or traded.

7. Effective cap and trade systems require binding and environmentally meaningful caps. Those require effective monitoring and enforcement activity. Appropriate structure of the initial property rights can reduce enforcement costs.

ABOUT THE AUTHOR

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