

1.4 Transfer and trade

Quantity trading

1. The LAWF's third report made recommendations on how best to maximise the benefits from water use, including encouraging transfers of consents for water and discharging contaminants. Recommendation 25 of the Land and Water Forum was that water within the allocable quantum needs to be easily transferable between users, to allow it to move to its highest valued use. The design of the allocation system should remove administrative barriers to transfer and trading.

Theoretical benefits

2. Water trading or transfer is a potential method of allowing water to flow to its highest use. This means that where water is not being used efficiently, it will be transferred to someone who values it more highly. This process should lead to higher value for the economy as a whole.
3. It also increases technical efficiency because it encourages users to consider the most appropriate amount of use. It can reduce the need for councils to make increasingly complex and contentious allocation decisions including over the availability of water for allocation.
4. Markets work best when they are efficient, in order to have an efficient market, certain prerequisites must be in place. To the degree that each of these prerequisites are met determines how efficient a market will be. The degree to which water markets are efficient varies between catchments, but all catchments within New Zealand have considerable limitations including:
 - Small market sizes - due to the geography of New Zealand catchments with a number of small rivers and aquifers. New Zealand has very few catchments with a large number of water users. In 2010 only 23 catchments within New Zealand had more than 50 water consents, and these catchments can be complex and diverse catchments, such as the Clutha.
 - The need to consider hydrological impacts - changing the point of take for water will have hydrological impacts, and councils must manage this to some extent in order to ensure that waterways meet community expectations. This means that there will always be limitations on who someone can trade with, though some councils have limited the need to approve water takes by permitting down river trades.
 - Lack of heterogeneity Water trading markets tend to work best where there are a range of different farm types in the area, so that water users have different needs at different times. In many catchments the majority of irrigated land has the same land use, such as viticulture in some Marlborough catchments or dairy in an increasing number of catchments.

Transferability of water permits

5. The Resource Management Act specifically allows for the transfer of water permits under Section 136(2)(b). All regional and unitary councils allow water trading, some as a permitted activity with certain conditions, and others requiring a consent. For examples the West Coast Regional Council and the Waikato Regional Council allow trading as a permitted activity in some catchments so long as it is downriver. Tasman has a provision in its plan to permit water transfers in certain areas if the Lee dam goes ahead. However, in the majority of

cases a water transfer will require new consents, or changes to existing consents, from the council. The classification of activity (whether it is controlled, discretionary etc.) varies according to region and often within the region according to catchment. The provision in the Resource management Act which covers transfers is Section 136 (2):

136 (2) A holder of a water permit granted other than for damming or diverting water may transfer the whole or any part of the holder's interest in the permit—

(a) to any owner or occupier of the site in respect of which the permit is granted; or

(b) to another person on another site, or to another site, if both sites are in the same catchment (either upstream or downstream), aquifer, or geothermal field, and the transfer—

(i) is expressly allowed by a regional plan; or

(ii) has been approved by the consent authority that granted the permit on an application under subsection (4).

Level of water transfers in New Zealand

6. Most councils report that they have either no, or very few, transfers of water consents (other than when the water consent is transferred when the land is sold). The exceptions to this are Canterbury and Otago. Otago has averaged 5 transfers of water per year over the last three years. Canterbury has had the most water transfers, which is unsurprising since Canterbury has the most irrigators and frequent water shortages, and the Canterbury plains has relatively well studied aquifers with a high number of water takes in each. The following table shows the number of water transfers in Canterbury over the last three years.

Figure 1.4A Transfer of water take consents in Canterbury

	2011/12	2012/13	2013/14
Groundwater	24	33	23
Surface water	1	5	8
Total	25	38	31

7. The following table breaks these figures down into transfers where the full consented take is transferred (commonly when land use is changed e.g. for residential subdivision, or a change in farming type) and partial transfers where only a portion of the consented water is transferred (commonly where efficiencies are found, such as a move to a more efficient irrigation system).

Figure 1.4B Canterbury full vs partial water take consent transfers

	2011/12	2012/13	2013/14
Full transfers	11	8	5
Partial transfers	14	30	26

8. Canterbury has just under 7,000 water consents; an average of 31 transfers per year equates to just under 0.5% changing hands per year. To put this in context, around 5% of properties using water are sold per year¹⁹.
9. Canterbury sees very few temporary transfers, with none last year and only three and four in the previous two years.
10. This data does not include water that is transferred within irrigation schemes, because irrigation schemes do not have individual consents for each water user. Instead water users within the scheme hold shares in the scheme which give them the right to take water to irrigate a certain area of land. For irrigation schemes the barriers to transfer are much reduced: infrastructure to bring water to the property is already in place, there is no new or amended consent required to take the water because there is no change in take point, scheme managers are a central point of information for potential buyers and sellers, there are many more water users than most catchments around New Zealand making the market size larger.
11. However, even with these advantages, transfers remains rare; for example, Rangitata Diversion Race Management Limited and Opuha Water Limited each reported that only 1% of the shares in those irrigation schemes were traded in 2012.

Examples of council requirements to transfer a water permit

12. For Canterbury's Selwyn Waihora catchment the classification of activity for water transfers depends on whether the seller of the water consent is willing to give up a proportion of the water to reduce over-allocation. ECan will currently allow a water transfer in Selwyn Waihora as a restricted discretionary activity so long as 50% of the traded water is surrendered. If the vendor refuses to surrender the water, then it would currently be considered as a discretionary activity, although if the Selwyn-Waihora variation is made operative in its current form it would be a prohibited activity. Throughout the rest of Canterbury surrendering of water is a factor which is considered when granting a consent in an overallocated catchment (unless stricter zone rules apply). Although only a short time-period, based on the number of permits transferred in the years before and after this policy's introduction, there does not appear to have been an impact on the number of permanent water transfers made, with similar numbers of transfers in 2013/14 following the introduction of this policy as in the previous two years.²⁰
13. Waikato Regional Council has attempted to encourage the transfer of water permits by removing the administrative barriers to transfers and trades. Consents to take water have been unbundled from consents to use water and transfers of surface water consents in the Waikato catchment are a permitted activity so long

¹⁹ Based on ownership of water consents being transferred without a change in take location.

²⁰ This paragraph has been updated following further information provided by Ecan

14. as it is downstream or within the same hydro lake. The only administrative requirement on those transferring is to give the council 10 working days' notice of the transfer, and there is no cost charged for transfer. Even with these administrative barriers removed, the Waikato region has had only eight transfers over the last three years.

Attitudes and barriers to water transfer

15. In 2001 the Ministry commissioned research on the attitudes and barriers of water users to transfer and trade²¹. An updated survey has been commissioned, and the findings will be presented in December 2014.
16. The 2001 research found that 75% of users supported the concept of short-term transfer because it was viewed as a practical means to help each other out if there was unused water available. Support dropped to 60% for permanent transfers. The reasons given for the reduced level of support are partly because of a philosophical objection to money being associated with water, but mostly because of attitudinal barriers associated with how water should be used on their own and surrounding land.
17. The key barriers that were identified by water users were:
- Water and land considered as one – there is a perception that access to a viable volume of water influences the land value. For most, selling water is akin to selling the land.
 - Maximising production - the concept of producing less than full potential and being compensated for reduced profit raised very strong objections. Also for most not watering in one season has implications for production in subsequent years.
 - Resistance to change - there was some concern that water transfer would encourage a faster change in land use, or increase the number of larger and corporate enterprises. There were concerns about the social implications of such change.
 - Irrigation infrastructure - infrastructure is required when water is transferred to previously unirrigated land. Temporary transfers are likely to only be between existing irrigators who already have on-farm irrigation infrastructure in place.
 - Lack of information on where there is additional water – the report also suggested that the possibility of transfer may not be widely appreciated by potential users.
 - Small, illiquid markets - water consents represent both options for the future and an appreciating asset. Current holders of water rights are unlikely to give up their current allocations as there is a significant risk that there will be no water available for purchase should they need it in the future.
 - Uncertainties - Uncertainties in markets, climate, reliability, environmental requirements, future land use options and land values all cause water users

²¹ The survey interviewed 46 agricultural water users across five regions. All of the properties were either in irrigation schemes or took water from fully-allocated resources.

to hang on to water. The reduced certainty in ownership of water discourages payment of full value for any water rights.

- Objection to paying for water – many believe that water is a public good and should not be tradable.
- Administratively time consuming – the time and effort required to apply for a resource consent reduces the likelihood of temporary transfers.

Water quality trading

18. Trading can support the management of nutrients in catchments and, in certain circumstances, can lessen the impact of nutrient allocations on users. It is assumed that trading takes place within the context of an overall catchment nutrient load limit (which is either fixed or declining).
19. Trading can either be between farmers (for flexibility – temporarily or permanently) or purchases, where the nutrient is 'retired' (generally by a public fund but could also be by a private buyer). The Lake Taupō scheme allows, and has had, both types of trades.
20. Trading basically incentivises those who can reduce their nutrient discharges at the least cost to do so. The theory behind trading is that early adapters or existing efficient participants can gain benefit by selling or trading credits/allowances, while less efficient participants have incentives to improve their efficiency to reduce the costs they face. Although trading can lead to land use change, land use change in response to changes in market conditions is typically a slow process.
21. Trading can be done through a range of mechanisms including: negotiation; tender; auction; and clearing house.
22. Currently the majority of, if not all, quality trades are permanent. There could be a case for temporary trades (for example if a user wanted to expand for a short period of time or wanted to buy units until they can upgrade their farm infrastructure to minimise leaching) but this has not been explored by the literature. If the market was liquid, you could assume it would be easy for a farmer to buy units permanently and then sell them when they're no longer needed. If there were temporary trades, they would need to be for at least one year, as this is how nutrient leaching is estimated (amount leached per hectare per year).
23. Diffuse discharge-only nutrient trading is relatively new in New Zealand and internationally. In a policy sense trading of nitrogen discharge allowances (NDAs) could be a useful tool for providing flexibility for landowners to meet the catchment limits while ensuring their economic viability. However, trading also strengthens the property rights of NDAs, as it provides a market for buying and selling them. As assimilative capacity is a common good, many stakeholders may be against trading of NDAs, as it provides the opportunity for users/sectors to make financial gains from something that many believe should not be able to be sold or bought. Trading can also be designed to occur between point source and non-point source users.
24. Trading of NDAs is largely untried in New Zealand (Lake Taupō catchment only) but a range of councils have/are considering trading of NDAs (e.g. Bay of Plenty,