

Board Paper

November 2015

Title: Water Policy – Key Principles

Author: T McCormick

Purpose

This paper seeks approval of the Board for some key principles on water policy matters.

Background

The need for Water Policies covering a number of specific topics has been identified by the Board. A Water Policy sub-committee has been established and has met on several occasions to discuss the priority and approach to the identified issues.

OWL Management is responsible for the production of the policies and we have not made good progress to date due to a number of reasons.

The key thing in establishing any Policy is to determine the key principles for each specific policy area and this is the approach I have taken in this paper. With agreement of the key principles in place, the policy preparation becomes a simpler drafting issue which can be more easily delegated/assigned.

The priority areas identified by the sub-committee were On-Farm Storage and Surplus Water and the discussions within the sub-committee identified how strongly these two areas are linked. Amongst the other policy areas identified, I believe that we should also consider Water Restrictions given the relevance of this topic.

Within this area, I would also like to raise with the Board, our existing 'policy' regarding the water supply agreement we have in place with Ellis-Lea Farms as I believe we need to revisit some aspects of this.

There is also an additional matter relating to use of shared water for stock water.

These policy areas are addressed separately in the following sections.

On Farm Storage

Discussion

Our new Water Supply Agreements require Board approval if water is to be utilised in on-farm storage facilities rather than directly applied to land as is the predominant situation throughout the scheme. This provision was included in the new agreements to enable some rules (policy) to be established to manage the anticipated increase in development of storage facilities and address any potential adverse effects or opportunities. It was a precautionary move based on the fact that the Opuha scheme has traditionally had a very low level of on-farm storage amongst its irrigators and, in fact, in many cases had been actively discouraged or prevented in some areas.

As scheme governors, the main issue with individuals developing on-farm storage was the fact that it would generally enable the Pond Owner to abstract their full entitlement each season whereas the norm for the scheme has been that, with normal weather and irrigation practicalities/logistics, the typical annual water use was around 60% - 75%. The corollary of this is that every on-farm storage developed would benefit the individual Pond Owner but potentially threaten the reliability of all other shareholders. This does still remain substantially true.

There are however potential mitigating factors whereby on-farm storage can present potential benefits for both the Pond Owner and the scheme (i.e. all shareholders). The benefits to the Pond Owners are reasonably obvious and relate to the fact that they will generally be able to draw more water if their system is tuned to enable near continuous abstraction at their fully shared rate than they would if they could only draw that rate when they are irrigating. It also tends to provide operational benefits on-farm (refer letter from A Macfarlane in relation to the new pond at Raincliff)

The principle benefits to the scheme relate primarily to distribution efficiency (that is both in-river and in-subscheme) and also to opportunity for utilisation of surplus water in-lieu of stored water. These benefits however, will only be able to be realised if there are certain provisions in place between the Pond Owner and scheme Operator. Hence the need for 'policy'.

The distribution efficiencies will tend to arise naturally since a flat, steady draw from either the river or a sub-scheme race is the easiest and most efficient to supply – no ramping up and down of releases or sub-scheme flows and therefore no 'slop water' ending up at the bottom of schemes or as excess flow in the river. More water stays in the dam for future use.

The benefit of utilising surplus water in lieu of stored water requires the ability for the Operator (OWL) to influence/instruct the pond owner to take water into their ponds at times when they might not otherwise intend to do so. The concept here is that the Operator can ascertain when there is surplus water available and by getting the pond owner to capture this water, less stored water will subsequently be required (ordered) by the pond owner in the near future. It is a simple concept but has some logistical challenges – the main one being the communications and controls associated with this concept, a secondary one relates to the 'water accounting' involved. Putting these complications aside for the moment, I think it is important to realise what is being suggested here – i.e. that on-farm storage, if integrated correctly, has the potential to actually save stored water that would therefore subsequently be available for distribution to all shareholders. Important to note however that this may not actually be a net increase in stored water available to other shareholders, but it will at least offset the increase in the on-farm storage owners ability to draw more of their annual entitlement as mentioned earlier.

The logistical challenges referred to relate to how the Operator can signal to the Pond Owner to take water when surplus is available – this could range from simply communicating a verbal/written message (phone, txt, email) right through to a semi-automated system where-by the Operator can actually start pumps or open gates to divert water into the pond.

The 'water accounting' issues relate to the potential need to differentiate between stored water and surplus water that is provided to the Pond Owner. *[note there is also an issue relating to 'allocation' of surplus water but that is best dealt with separately from this storage policy]* This is relevant in the context of the key principles that I am proposing for this policy whereby surplus water may attract a lower charge than stored water if a Pond Owner uses more than 80% of their entitlement in a season. To explain further (and some of this is starting to define the key principles) my premise is that, under normal seasonal conditions, each

shareholder is entitled to and pays for 80% of their annual entitlement. If a shareholder wishes to invest in developing an on-farm storage to be able to better capture their 80% entitlement, and adhere to OWL policy, then they are entitled to do so. If they draw more than their 80% entitlement, then they will pay for that extra water on an incremental cost basis. There would be two prices for this extra water – a higher cost if it is stored water compared with a lower cost if it is surplus water. Simple concepts but challenging logistics. While our Constitution and Terms of Water Supply do not require Board approval for anyone to use more than 80% in a season (approval is required for use above 100%), I feel this is something we may need to consider for Pond Owners, however it is only really an issue in seasons of shortage which will then come under a water restrictions policy framework.

The concepts of both distribution efficiency and utilising surplus water in lieu of stored water are already in effect and proven in the Kakahu scheme where there are already a number of on-farm ponds along the scheme and the Operator is able to utilise these ponds (with or in some cases without needing to interact with the Pond Owner) to capture transient surplus flows that arise through normal sub-scheme operation. Often in these circumstances, the ability to divert and buffer these transients actually avoids problems for the Operator such as overtopping races and flooding downstream. Although the arrangement in Totara Valley is conceptually different with Gardner's Pond at the bottom end of the scheme, it is also an example of the benefit that can arise by utilising surplus water (in this case primarily 'slop water' plus carriage) in lieu of stored water. In this case, there is 300 ha that is being irrigated without the need to actually release more stored water from the dam.

Key Principles

- a. On-farm storage ponds are permitted but must comply with OWL Policy and be approved by the Board.
- b. The water supply into the ponds must be metered (normal Standards to apply including display of/access to instantaneous and integrated water use), telemetered, and OWL is to have access to the data on a real time basis (typically 15 min interval).
- c. Pond level (and corresponding volume) is to be monitored and telemetered/available to OWL.
- d. The Pond Owner is to have the ability to respond to requests from the Operator to take water into the pond. The Pond Owner must make every effort to respond to such requests. *(this is the requirement/ability to take surplus water)*.
- e. Total seasonal use above 80% annual shared entitlement (and <100%) will attract additional water charges *(this is covered by existing OWL terms and conditions)*
- f. If the Pond Owner does use more than 80% annual volume, any surplus water amounts included in this excess will be discounted (i.e. will not be charged for at the full incremental rate)
- g. In seasons where scheme wide water restrictions are in effect, Pond Owners will be required to comply with the water restrictions *(I do not, at this stage, envisage there would be any need to have different restrictions for Pond Owners – they would have their take rate or monthly take volume restricted the same as anyone else)*

Recommendation

Directors are asked to consider and endorse the key principles relating to On-Farm Storage.

Surplus Water

Discussion

Firstly, I have found it useful to try and define surplus water and its different forms as there may be a different approach to different types of surplus.

Definitions

Surplus Water – water that, if abstracted, will not adversely impact on lake storage objectives ^{Note 1} or SYB minimum flow requirements

Operational Buffer – excess flow above target at SYB when lake releases are being limited to meet SYB flow target

Lake Control Surplus – releases from the lake are above minimum required to meet SYB flow (surplus will be available throughout Opuha and Opihi)

Catchment Surplus – lake releases are on minimum but flow at SYB still above minimum required. (surplus will only be available in Opihi stem ^{Note 3}, Te Ngawai ^{Note 3}, but possibly not Opuha ^{Note 2})

In-scheme Operational Surplus – whenever the sub-schemes are being operated there are occasions when there is surplus water at particular points and/or under particular conditions.

Notes to definitions:

1. Above Dam – surplus water is only available when lake is being operated in Lake Control mode and the respective tributary (North and South Opuha) is above minimum
2. Opuha River - note that there appears to be a shortcoming in the conditions of the affiliated consents that abstract from the Opuha River, including the Kakahu scheme, whereby they are not restricted on the actual flow in the Opuha River – at their point of take or where the Opuha flow is measured upstream at Skiptons. For example, it is possible, if the Opihi River flow was sustaining required flow at SYB, and the dam release was on minimum of 1.5 cumecs, that Kakahu could still divert 1.3 cumecs and just about run the Opuha River dry above the confluence. So, I suggest, any surplus in the Opuha River ought be tied to a minimum flow at Skiptons of 1.5 cumecs
3. The Te Ngawai at Cave would need to be flowing above its minimum and similarly, for abstractors above Rockwood, the Opihi at Rockwood would need to be above minimum
4. AN water – AN water is not strictly Surplus Water since, under some conditions, abstraction of AN water will require additional releases from the dam. The main value of the AN Water consent now held by Owl is that is an existing consent that provides the right to divert more water than is covered by the exiting AA and BA consents. It needs to be considered separately from this policy.

We have had confirmation from ECan that any water in excess of the minimum flow at SYB, can be abstracted under AA or BA consents.

There are two key incentives for OWL to consider the utilisation of surplus water:

- i. To reduce the demand for stored water to be released from the dam. This is really only achievable through the utilisation of on-farm or in-scheme storage ponds. Refer to the discussion on this subject in the previous section.
- ii. Commercial opportunity – if supply of surplus water can be differentiated from supply of shared water, then there is opportunity for OWL to extract additional revenue from the water user. The current agreement with Ellis-Lea Farms is an example of this and it is also the concept that is on the table in discussions with Kemford Farm.

Note that there are very often times during an irrigation season when surplus water is being taken as ‘shared water’ and thus any policy or subsequent specific supply agreement relating to surplus water, clearly establishes conditions that differentiate between using surplus water for supply of shared water and using it under any such agreement.

For surplus water to be able to be utilised most effectively, there preferably needs to be a storage/buffer pond available to direct the surplus water to when it is available. Although the existing Ellis-Lea Farms agreement does not specify or require a storage/buffer pond, it is suggested that the OWL policy on surplus water should require a pond to be available for any surplus water.

I am mindful that the use of surplus water is likely to come under scrutiny in the upcoming Sub-Regional Plan process. I therefore suggest that any formal agreements that OWL may enter into with third parties regarding surplus water are clear to remove any liability on OWL for the outcome of the Sub-Regional Plan.

If there are a number of ‘opportunities’ for OWL that arise for the utilisation of surplus water, then it will be necessary for there to be a process for prioritising or rationing the surplus water available at any one time. At this stage, I see little alternative other than a first-on basis – i.e. surplus water will be allocated based on the chronological order in which third parties enter into any agreement with OWL. If there are cases of ‘existing use’ (eg to some degree, the pond owners in Kakahu may claim that they have already been supplied ‘In-scheme Operational Surplus Water’ by OWL) then there would need to be a method of equal rationing amongst these water users.

There are likely to be situations whereby the physical location of the off-take for surplus water gives that water user specific advantage over some existing surplus water users. An example would be that someone at the bottom of the catchment will be able to take any surplus water available at their take, regardless of whether anyone upstream has any preferential right to it.

Apart from the Kakahu pond owners, the only two facilities existing prior to the merger are Sutherlands/Gardners Pond and the agreement with Ellis-Lea Farms. Stratfords have built a pond within the Levels Plain scheme on the basis that surplus water would be made available although it is not solely reliant on surplus water. This pond has only been commissioned at the start of 2015/16 season and there is no formal agreement in place between Stratfords and OWL.

Key Principles

- a. Surplus water will be allocated and supplied to BA and AA consent holders at OWL’s sole discretion.
- b. Any special arrangement or agreement for utilisation of surplus water will require a buffer/storage pond to be available for the surplus water.
- c. OWL will accept no liability for the availability or reliability of surplus water under any agreement.

- d. OWL will use best endeavours in making surplus water available under any special agreement, to maximise the benefit to both parties.
- e. OWL will recognise and prioritise existing arrangements ahead of any new arrangements/agreements

Recommendation

Directors are asked to consider and endorse the key principles relating to Surplus Water.

Water Restrictions

Discussion

The irrigation season of 2014/15 saw a series of water restrictions in place through the season that were set at either 25% or 50% restriction. Higher restriction levels were not considered feasible with both distribution and on-farm challenges with managing a supply of only 25% of entitlement. All the restrictions were based on a blanket restriction on instantaneous take for all irrigators. (At this stage I am not considering the differentiation for Above Dam users in this discussion).

One issue that arose under this restriction regime was that it disadvantaged those shareholders that typically had a significant difference in their seasonal water use profile to the reasonably flat profile of most pasture based farms. In particular, cropping farmers had higher needs at the start of the season but backed off nearly completely after Xmas and then would normally require late season/autumn water for the new crops. Vegetable growers also tended to have high early season needs, reducing in late Spring but high leading into Xmas with a reduction after New Year.

The blanket restriction regime does not provide well for a profiled seasonal use and especially for late season use when the storage is more likely to be depleted.

The latest restriction regime that has been implemented for November 2015, is based on allocating each irrigator a restricted volume (based on their shareholding) but with no restriction on when or how they use that capped volume (within the delivery rate based on their full share entitlement). The intention was mainly to provide additional flexibility to irrigators and enable them to make their own choice as to how they utilise it. It also shifts the weather forecasting risk more from OWL to the irrigator.

What I would like Directors to consider is extending this concept of a volumetric allocation further out into the season and possibly right to the end. To jump to a near-end-of-season scenario, if we are facing severe shortages and we have two irrigators requesting water, will we give any preference to the shareholder that has used significantly less of their shared volume entitlement?

I believe there is a strong case for this form of rationing – every shareholder pays the same amount for the same volume entitlement. The counter arguments previously aired at the Board table have included that the scheme was not set up that way, we cannot operate that way because of the limited size of the storage, we will be run off our feet if we start trying to accommodate individual land use differences, and that those shareholders with the different use profiles have to accept the associated greater risk of non-supply in dry seasons. These counter arguments all have some basis but we still need to consider if there are ways that we can reduce the impact of a dry season and a stressed lake across all our shareholders.

My preference would be to have a process in place where-by individuals, and it may be exclusively non-pasture irrigators, who have a significantly variable season use profile, are able to utilise more water over a limited period than might otherwise be available to other irrigators over the same period. Seasonal use to date will be a strong factor in this process but there would also need to be some forward projection by the individual water user. For example a common call last season was the need for water in December with a willingness to commit to near zero use in January.

I note that even if we do agree to some form of 'rationing' along these lines, there may be limited flexibility available once specific lake level triggers are reached and OEFRAG implement more blanket-like restrictions (eg at 50% lake level, 75% restrictions to apply) It is my view we would be able to negotiate some concession with OEFRAG within an overall cap like we have done for November, but we will need to consider how this can be presented in a Water Shortage Direction which means individual consent holders will face an end of season review against the WSD restrictions.

Recommendation

Directors are asked to consider whether we attempt to provide for the varied seasonal water use profiles of specific shareholders/irrigators.

Ellis-Lea Farms Agreement

Discussion

The owner/operator of the property associated with the Ellis-Lea Farm Agreement has expressed his very strong dissatisfaction with the lack of supply of water under the agreement.

The agreement with Ellis-Lea Farms provides for them to access surplus water including what is defined (in my earlier commentary of Surplus Water) as operational buffer water. The original property owner and proponent of the specific water supply agreement that was novated to Ellis-Lea Farms as part of the land sale and purchase had promoted the agreement as inherently reliable since, even when there were water shortages, the nature of the dam and river operation was that there was nearly always Operational Buffer. Based on historical data, this was a reasonably valid opinion.

The final agreement contained a number of conditions relating to the reliability of supply that include that the Irrigator receives no greater reliability than any existing Shareholder and when water restrictions are invoked by ECan, such restrictions will apply in no lesser degree to the Irrigator and OWL could restrict the supply to such extent as was deemed necessary by OWL to protect existing Shareholder's reliability which may substantially reduce or stop supply altogether (refer attached excerpt).

During last season, the Board defined a policy to apply to this agreement under restrictions. This policy reiterated that the Irrigator was not be on less restriction than other shareholders and also specified that when there was a restriction is environmental flow (i.e. the minimum flow at SYB was reduced below the ORRP level) then no water was available under the agreement. The result of this second part of the policy, is that there has been no water supplied under the contract at all this season and, by the looks of it, there is unlikely to be any available. I have interpreted the policy such that, even when there are reduced environmental flow limits in place, if the flow at SYB does exceed the ORRP flow, then water can be supplied to Ellis-Lea Farm. The likelihood of this actually occurring in the very dry

summer are probably very limited and if they did, it is most likely on the back of good rain so little need for irrigation.

I think it is a reasonable presumption that no party involved in the agreement envisaged conditions whereby there would be no supply at all through even what might be a very dry season.

I am confident that the systems we have in place around the Ellis-Lea agreement ensure that there is no additional stored water released to make up for any water they may use. This is a fundamental premise and critically important aspect for the OWL Board.

I believe it is very likely that Mr Ellis may seek to walk away from the agreement or seek legal redress in some way.

The annual income for OWL under the agreement is approximately \$92k.

Recommendation

It is recommended that the Board consider revising the policy relating to supply of water to Ellis-Lea Farms to ease the condition whereby there is no supply when environmental flows restrictions are in place.

Use of Shared Water for Stockwater Supply

Discussion

I have been challenged in an email from a shareholder on the issue of the use of shared water for stockwater (instead of irrigation). The shareholder feels very strongly that this was never the intent of the scheme and that the water supplied through the OWL scheme should only be used for irrigation.

I had not come across this issue previously and agreed with the sender to investigate.

Our Terms and Provisions for Supply of Water have the following clause:

4. SUPPLY OF WATER

4.2 *Water to be used for complying purpose The water to be supplied by the Company to the Shareholder is to be used for irrigation purposes and such other purposes that comply with all conditions of any Resource Consent and any further purposes which are approved by the Board in any relevant policy statement posted on the Website of the Company. Water for purposes other than irrigation may be taken during each Year as determined by the Board.*

I have a different view to the sender and feel it is within the shareholders rights to, if they desire, use shared water delivered through the OWL scheme for stockwater.

I am unclear as to the current extent of this practice and whether, as the sender suggests, OWL has condoned or approved such use in the past. I will attempt to ascertain more detail on this prior to the Board meeting.

I am seeking some guidance from the Board on this matter.



Tony McCormick
Chief Executive
30th April 2015

Excerpt from the Water Agreement in effect with Ellis-Lea Farms:

Reliability of the supply of water

7.1 The parties agree that:

- a) the Company is only required to make Surplus Water available to the Irrigator pursuant to this agreement;
- b) if the actual flow of the Opihi River at Saleyards Bridge is less than the Minimum Required Flow (or would be less than the Minimum Required Flow if the Irrigator was to take 120 litres of water per second (at an instantaneous rate) pursuant to this agreement), the Company may restrict (wholly or partially) the supply of water to the Irrigator to the extent necessary to ensure the actual flow of the Opihi River at Saleyards Bridge is not less than the Minimum Required Flow;
- c) the Irrigator receives no greater reliability of water than any existing Shareholder;
- d) in the event any catchment wide restrictions or conditions are invoked by the Regulatory Authority at any time, such restrictions will apply in no lesser degree to the Irrigator and the Company may restrict the supply of water under the Water Agreement to such extent as the Company considers necessary to protect existing Shareholders' reliability which may result in the supply of water under the Water Agreement being substantially reduced or being not available at all; and
- e) for the avoidance of doubt, any restriction on the supply of water to the Irrigator in accordance with this clause 7.1 shall not constitute a breach of the Company's obligation to act in an equitable manner towards the Irrigator, or ensure the Irrigator receives a fair proportion of water, for the purposes of clause 5.5 of the Terms.