

Report No:	RCN12-01-09
File No:	W345
Date:	4 January 2012
Decision Required	

REPORT SUMMARY

Report to: Full Council
Meeting Date: 26 January 2012
Report Author: Dennis Bush-King, Acting Chief Executive
Subject: **Proposed Lee Valley Community Dam**

EXECUTIVE SUMMARY

This report updates the Council on progress with the Lee Valley Community Dam investigations and seeks approval to formally present the proposal as part of the Draft Long Term Plan 2012-2022. The Council has previously agreed to pursue water augmentation options to redress over-allocation of the water resource in the Waimea Plains. The alternative of reviewing the minimum flow standards for the Waimea River in the TRMP and requiring a reduction in permitted allocations is 'on hold' pending the outcome of the augmentation investigations.

The Waimea Water Augmentation Committee has advanced investigations of the Lee valley Community Dam to the point where the Council should use the Special Consultative Procedure to explore with the community issues around the funding of the dam. There are still many details to work out, and therefore there will be further requirements to consult. At this stage it is proposed that the Council seek feedback on the significant issues concerning confirming the need for this water augmentation proposal, agreeing in principle to a community owned governance arrangement involving Council as a significant stakeholder, and funding options.

DRAFT RESOLUTION

THAT the Tasman District Council

- a) receives Report RCN12-01-09 on the Lee Valley Community Dam; and**
- b) notes that the proposal is for the Dam to be operated by a community owned company of which Council will be a shareholder recognising both its urban water and general water management interests; and**
- c) notes that it is not intended that the company be a council controlled organisation but that Council interests can be adequately accounted for through any water allocation regime in place under the Tasman Resource Management Plan, through any directorships on the Board of the company, and through the proposed funding arrangements; and**

- d) agrees in principle that funding the construction and operating costs, less any contribution from third party sources, can be secured through using Council's powers under the Local Government (Rating) Act 2002; and**
- e) agrees that proposal be included for consultation in the Draft Long Term Plan 2012-2022, the draft text of which is included in Appendix 2 of report RCN12-01-09; and**
- f) agrees that proposal to be included in the Draft Long Term Plan is based on the dam project costing \$42 million, 70 percent of which is proposed to come from consumptive users and 30 percent of which is public good to maintain the environmental flows in the river; and**
- g) notes that financial modelling indicates a per hectare rate inclusive of annual operating costs, in the order of \$420 to \$520 per hectare and that if provision were made for lump sum payments the cost would be in the order of \$3,750 to \$4,620 per hectare; and**
- h) notes that the Council contribution to improve the security of supply for current urban water supply needs will be based on an assessment of 620 ha equivalents and for future supply an additional 780 ha equivalents; and**
- i) agrees that the Draft Long Term Plan indicates an extra 9 to 11 cents on the current volume charge and an extra 0.034 to 0.043 cents on the daily charge for the water supply needs identified in h) above; and**
- j) agrees to using the assumption in the Draft Long Term Plan that \$6 million will be funded through a charge on general rates to cover half the cost of the environmental flows component of the dam project; and**
- k) notes that the other half the cost of the environmental flows component is being assumed to come from central government and/or Nelson City Council; and**
- l) agrees that the Mayor sends a letter to Nelson City Council requesting that the Council makes provision in its Draft Long Term Plan for funding towards the environmental flows component of the dam project and towards the consumptive users portion of the project allowed for Nelson City's urban water supply; and**
- m) notes that the dam project may include a hydro-electric power generation facility and this is expected to be at least cost neutral to the Council.**

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1. Purpose

- 1.1 This paper seeks Council's agreement to undertake further consultation on the Lee Valley Community Dam proposal through the Draft Long Term Plan 2012-2022 (LTP).

2. Background

- 2.1 In 2002 Council established a representative, multi-party working group known as the Waimea Water Augmentation Committee (WWAC) to further investigate water augmentation options for the Waimea Basin. This followed on from the successful development of the Wai-iti Dam.
- 2.2 With on-going water resource investigations it was clear that there was much less water available for allocation to both consumptive and non-consumptive uses and values within the Waimea Basin. With the agreement of a range of parties, the Council adopted an interim water management regime under the Tasman Resource Management Plan (TRMP) while water augmentation options were developed.
- 2.3 WWAC completed the Feasibility Study for a water storage reservoir in the Lee Valley catchment in 2010 and this was reported to Council and the wider public in February 2010. A comprehensive evaluation of site locations and indicative effects has been completed and general agreement on the preferred site has been secured. The project has moved to the next phase with further investigations into governance and funding arrangements, consenting requirements, TRMP water allocation changes, and land purchase. More detailed site investigations and dam design, are underway. This further work is now at a point where, subject to Council agreement, the project needs to be accounted for in the LTP if it is to continue to attract Council funding. Design work is due to be completed by early 2013.

- 2.4 A bibliography of the reports commissioned to date in support of the proposal is attached as Annex 1.

3. Project Description

- 3.1 The proposal is to construct a 52m high dam in the Lee Valley (see Figures 1 and 2). The dam will have a gross storage capacity of 13.0 million m³ of water, servicing the equivalent of 7760 hectares of land. The stored water will be released during dry periods to augment river flows and groundwater recharge for irrigation, community supply, and instream requirements (ecological, cultural and recreational). No canals or reticulation form part of the project costs. The planning horizon for the dam is 100 years.

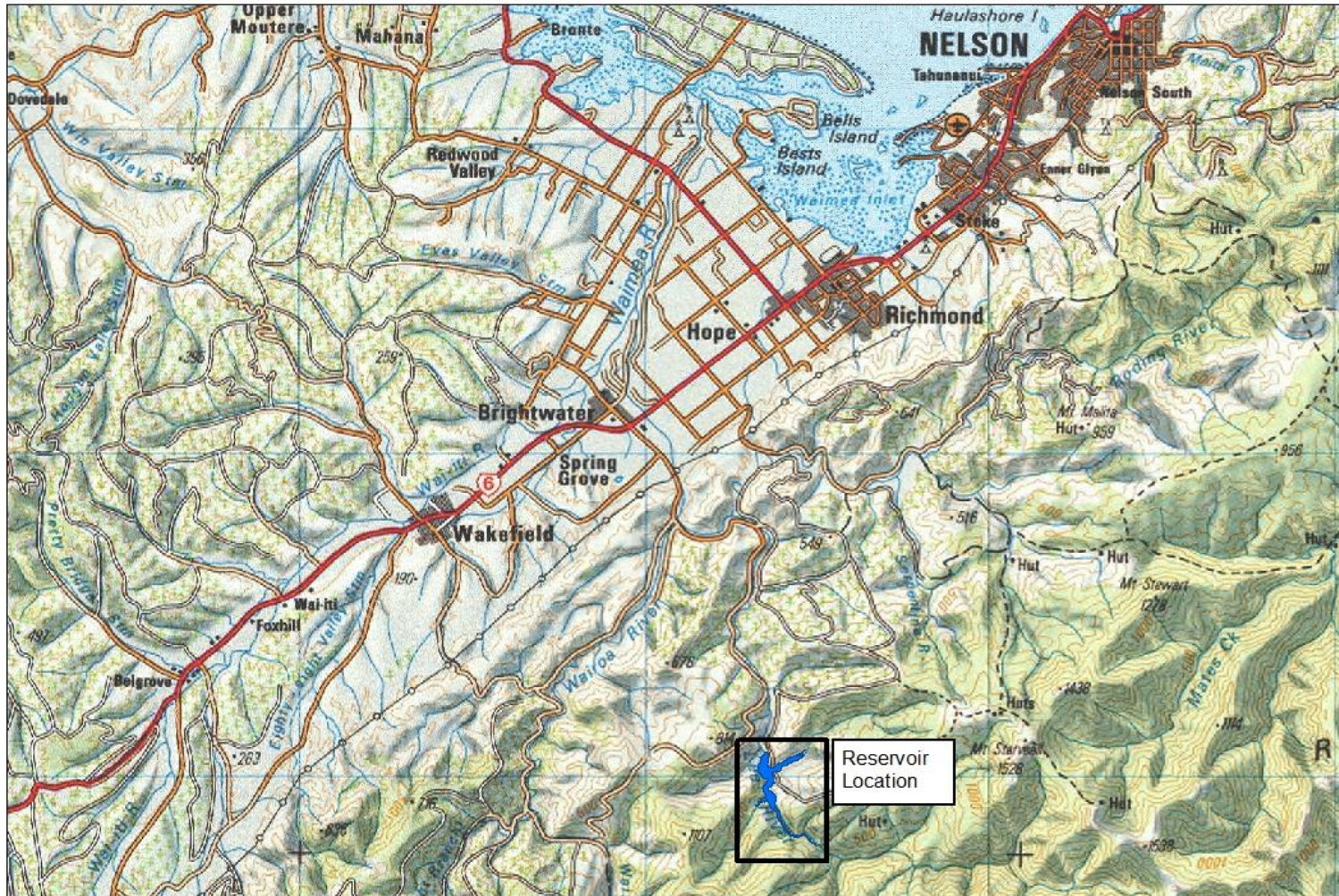


Figure 1: Location Map

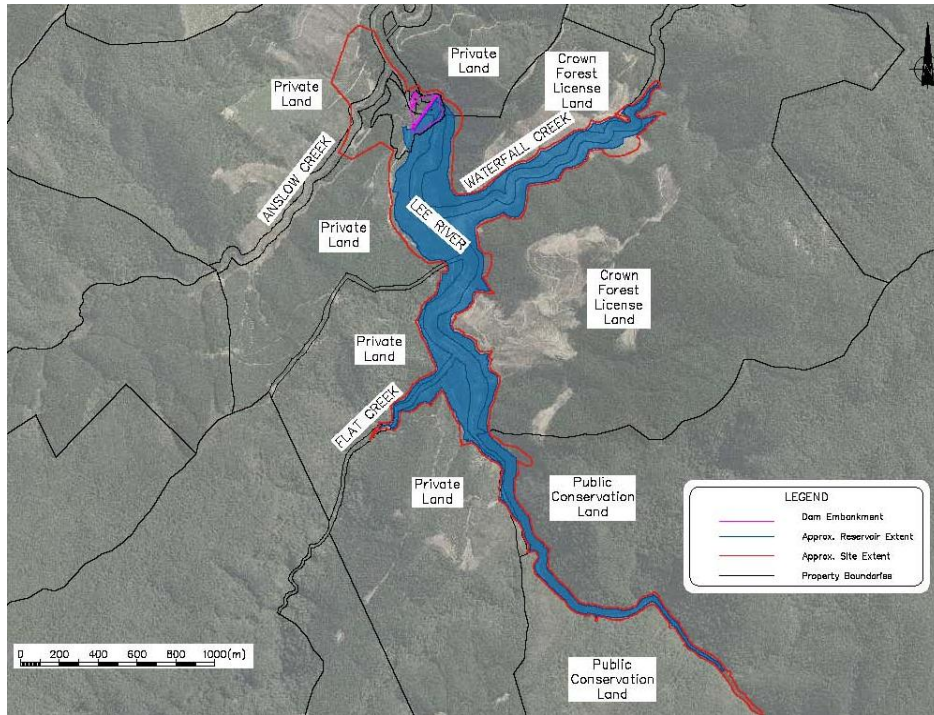


Figure 2: Dam Impoundment

3.2 The 2010 Feasibility Study assessed the cost of the dam at \$41.6M. This will change once the detailed design work underway now is completed and cost assessments are made based on the detailed design. The \$41.6M cost is the assumed cost that we have adopted for the purposes of the LTP. Inflation will see this figure increase but design efficiencies may also see some offset. Incorporating a hydroelectricity component will see the costs increase but by how much is still to be determined. The current assumption is that it would be a major lost opportunity if a hydroelectricity component was not factored into the proposal. It is also assumed that the hydroelectricity component would be cost neutral. The indicative capital cost of the hydroelectricity component is \$4.25M.

4. Doing Nothing is not an Option

4.1 Water permits on the Waimea Plains have been placed under rationing restrictions in seven out of the last eight years. The surface and groundwater resources are significantly over-allocated. Hydrological and ecological studies have shown that the minimum flow level of the Waimea River has to significantly increase to meet environmental standards for instream values and to avoid saltwater intrusion risk in linked aquifers. Currently the minimum

flow is 225 l/sec under an agreed water allocation holding position in the TRMP that is operative from February 2011. The minimum flow level should increase to somewhere between 800 l/sec and 1300 l/sec. WWAC has been using 1100 l/sec at the Appleby Bridge as the design parameter and staff consider this appropriate for current purposes.

- 4.2 What this means is that without water augmentation, the legal security of supply to consumptive users would have to be significantly reduced. Council will have to severely reduce permit allocations and/or increase the use of 'cease take' directions together with accelerated step-wise rationing. At a minimum flow level of 1100 l/sec, and without the dam, four out of the last five years would have had 'cease take' directions – i.e. no water could have been legally taken.
- 4.3 The economic impact to the region of not having an augmented water supply is significant. The Nelson Regional Economic Development Agency has carried out an independent assessment (reported to Council in September 2011) which estimated the loss in production and economic value to the region at \$440M over a 25 year period. Cut backs to water for consumptive use would result in land use change and land value changes which would be significant.
- 4.4 Council's own future water supply needs can be met from the augmentation proposal. No dam would mean that Council would have to look to other alternatives to meet future needs.
- 4.5 If the augmentation proposal does not proceed for whatever reason, the Council is still under an obligation to review the TRMP provisions, and now given the existence of a National Policy Statement on Freshwater Management that requires environmental flow limits to be set, that is likely to be an extremely contentious and costly plan change.

5. Governance Arrangements

- 5.1 The Waimea Water Augmentation Committee has been successful in bringing together a diverse range of interests to best resolve the concerns around over-allocation of the water resource in the Waimea water management zone. Having investigated a range of management options for irrigation schemes WWAC has recommended a community owned company with "A" and "B" shareholdings. "A" shareholders will represent consumptive user interests and "B" shareholders, who will have their own Environmental Trust, will represent non-consumptive interested parties.

- 5.2 Council commissioned Price Waterhouse Coopers (PWC) to review the governance options available including whether the dam company should be a council controlled organisation (CCO). Legal advice from Simpson Grierson has also addressed this issue. Given that 60 percent of the consumptive users are irrigators there is strong support that the dam should be a community facility but not owned by Council. However, if Council is to guarantee any loans raised there will need to be safeguards built in to any governance arrangement whereby Council would become the default owner. With the ability to appoint directors to any company structure, and because the Council will control the means by which augmented water will be allocated through TRMP rules and take consents, and given the funding arrangements discussed below, it is considered the Council water management and consumptive interests can be adequately protected, and risks managed, without having to own the dam.
- 5.3 If the Council were to push for a CCO there is no guarantee that the dam would be as readily able to access third party funding, including access to the Government's recently established Irrigation Acceleration Fund. Accordingly, in view of the community support to date, it is proposed that the LTP signal the dam will be community owned, and that Council will be a shareholder with an ability to appoint directors, the number of which is still to be determined.

6. Funding Options

- 6.1 The WWAC preferred model at Feasibility Stage was to fund the dam construction via voluntary subscriptions from water permit holders/shareholders, Council contributions including from the urban water account, and any third party sources. 70 percent of the costs were to be met by consumptive users with the remaining 30 percent to be contributed from public sources – the percentage assessed as that proportion of the costs attributable to the “public good” – restoring a more appropriate minimum flow and enhancing recreational opportunities. The 30 percent represents the incremental storage capacity (i.e. extra 3.8 million m³) required for the desired environmental/minimum flow of 1100 l/s vs a basic minimum flow of 600 l/s.
- 6.2 Finding 70 percent of around \$42M was never going to be an easy task. Accumulating the funds on a voluntary basis, given the example of other irrigation proposals, is fraught with risks and financial uncertainties. The current proposal is to use Council's rating powers to collect monies to repay loans that the Dam Company would raise to cover costs (see section 7 for more details). The area to directly benefit from an ability to abstract 30mm/ha/week once the augmentation scheme is up and running equates to

approximately 4,939 ha which includes the 1,273 ha Waimea East Irrigation Scheme land (or potential land).

- 6.3 The Council will also be required to contribute to improve its own security of supply for current urban water supply needs across the Waimea basin (assessed at 620 ha equivalent) and future needs for the next 100 years, including future industrial supply (an additional 780 ha equivalent). Indications are that this level of support could see an extra 9 to 11 cents on the current volume charge and an extra 0.034 to 0.043 cents on the daily charge if Council's 'urban water' contribution is recovered up front.
- 6.4 In terms of dam design, this leaves approximately 1,330 ha equivalents to contribute through an underwrite from third party sources, for example the Government or Nelson City Council (in terms of its future water supply needs). The alternative would be to spread the costs associated with this underwrite across all other consumptive users. The financial modelling employed indicates that the cost difference would be around \$100 per hectare equivalent. For the purposes of the LTP discussion we are assuming third party funding will be secured.
- 6.5 Finding 30 percent of the cost for environmental improvement/public good can only realistically come from the two Councils or Government unless it is decided it should be charged back to consumptive users. For the purposes of the LTP we are assuming that \$6M will be funded through a charge on general rates. A separate report at this meeting shows the rating effect which is approximately 2% in Year 4 of the Draft LTP (2015-2016). We propose that the Draft LTP text raise the possibility of reducing this amount through use of funds from asset sales which may require a separate consultation process at a subsequent date. The important thing is that the community accepts the funding option or otherwise indicates a preparedness to explore other funding sources to minimise any rating impact.
- 6.6 The other \$6M will be assumed to come from Nelson City Council and/or the Government. Nelson City Council has generally indicated it accepts in principle the economic importance of a secure water supply for the Waimea Plains but will have to make its own commitment through its own LTP process. The Government has committed monies to degraded water bodies mainly in relation to water quality but an attempt could be made to persuade consideration in terms of over-allocated water bodies.
- 6.7 There are a variety of choices that will be available when determining the detail of the funding splits and options that will be available to manage the cost implications. These include looking at such things as repayment options

(principal and interest versus interest only for a time), term of repayments, and interest rates. There is also the option of tiered repayments depending on property location. These choices can be refined later if there is general acceptance by the public to the higher level issues involved at this stage.

7. Rating Layer

- 7.1 In order to define rating liability for the improved security of water supply, a 'zone of effect' has been developed. All rateable land within the zone will be rated regardless of whether a current water permit is held. This will be of concern to some people who do not wish to irrigate or who for other reasons will find it difficult to pay the rate. There will be other consequences which may see land use changes and land value changes but these will not all be negative. We have also identified options for mitigating the negative consequences which we will return to later.
- 7.2 The proposed 'zone of effect' is shown in Figure 3. Land within the yellow area on Figure 3 will be able to access water at 30mm/ha/week under new rules to be included in the TRMP. Land within the blue and green areas will be linked in through Waimea East Irrigation Company.
- 7.3 Financial modelling of the base case indicates a per hectare rate inclusive of annual operating costs, in the order of \$420 to \$520 per hectare (WWAC figures in the Feasibility Report were \$420 to \$580). If provision were made for lump sum payments the cost would be in the order of \$3,750 to \$4,620 per hectare. Again final figures will depend on which assumptions are finally chosen but the indicative costs are very competitive – eg North Otago scheme currently proposing \$9,000 per hectare. Rating for the construction costs would cease at the end of the loan term after which operating costs only will be collected (around \$50 to \$70 per hectare).

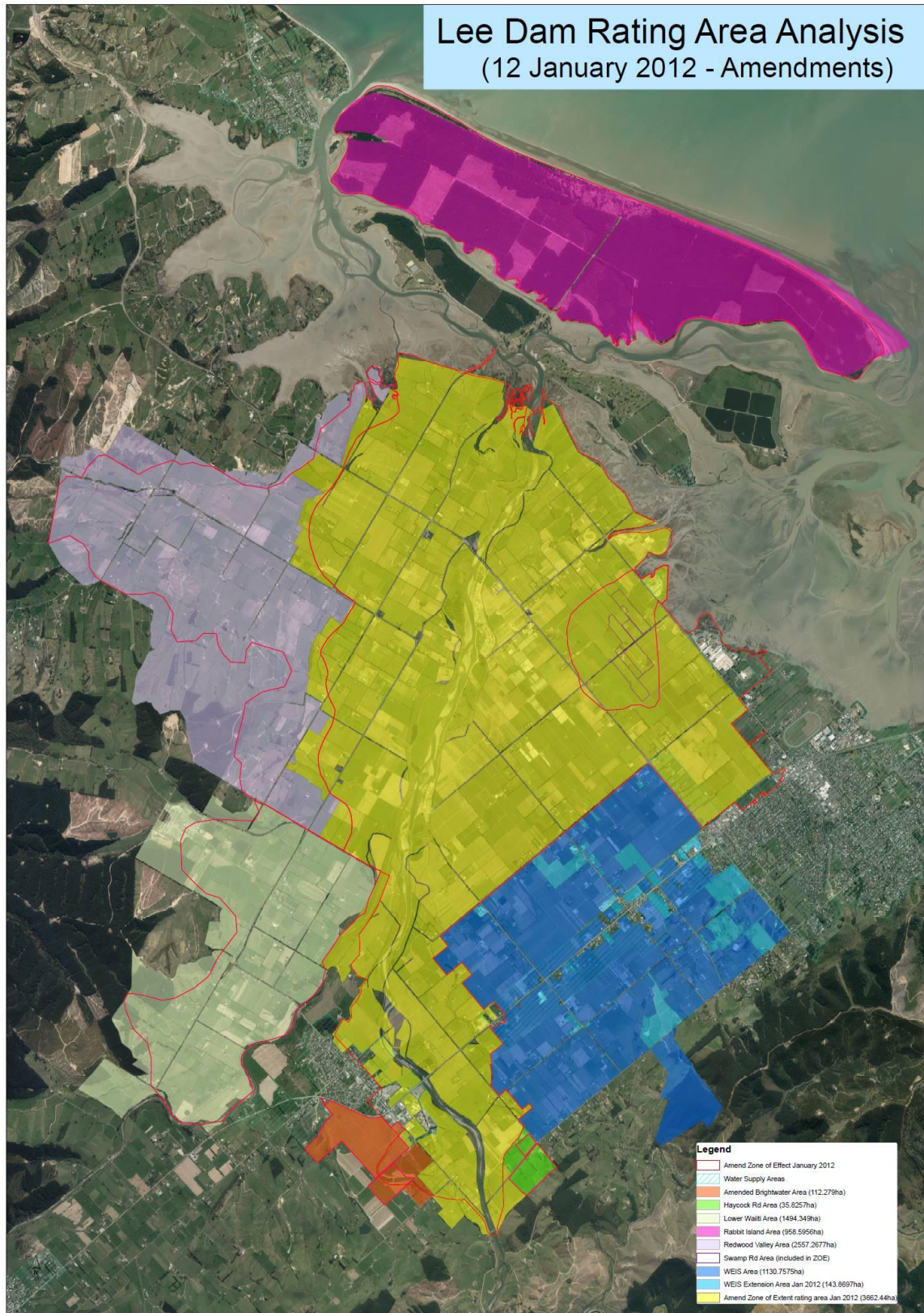


Figure 3 – Zone of Effect

- 7.4 If land is not to be irrigated, or only part of an entitlement is to be used, then land owners will be able to make arrangements to reallocate, in whole or in part, to others either inside or outside the 'zone of effect'. However the rating liability will always be linked to the originating land parcel. This is seen as a benefit should future owners wish to use water entitlements and it goes some way to meeting the concerns of those who would like to see water permits tied to land parcels.
- 7.5 The prospect of a market for unused water is a further detail that will need to be refined and there may well be a role for the Dam Company to be involved in, particularly where no take permit exists, developing water supply agreements that will be able to operate within the TRMP take consent framework.
- 7.6 The dam design will allow for water to be exported outside the zone of effect but those who choose to take up the 1,465 ha equivalent underwrite equivalent will have to meet reticulation costs and any costs associated with securing land owner agreements. They will also have to comply with any TRMP rules on bore separation distances etc.

8. Significance

- 8.1 Any decision to effectively act as guarantor for the cost of the dam is a significant decision according to the Council's Significance Policy because of the financial, economic, and environmental issues surrounding the water augmentation proposal. As such the proposed Lee Valley Community Dam, and Council's involvement in it, will trigger the use of the Special Consultative Procedure. It is proposed that the first consultation stage be run as part of the LTP process but we should run a specific but parallel opportunity for people to give feedback.

9. Recommendation/s

- 9.1 There is widespread acceptance of the need to improve security of supply and redress other issues of over-allocation of the water resource in the Waimea Plains. How this should be done is a matter for debate. Investigations into the proposed Lee Valley Community Dam have reached a stage where further public participation is required and given the role of Council in the scheme, it is appropriate that the proposal be included in the Draft Long Term Plan 2012-2022.

10. Timeline/Next Steps

- 10.1 There has already been considerable consultation with water users and in December 2011 land owners within the zone of effect were invited to attend update briefings. However it is proposed that as part of the LTP consultation that a parallel and dedicated opportunity is provided to all ratepayers and residents to discuss the Lee Valley Community Dam proposal by way of a clinic and public meeting.
- 10.2 As can be seen there are details yet to be worked through. This means there will be further consultation opportunities. There will also be a further LTP review before any rating impact will occur.

11. Draft Resolution

THAT the Tasman District Council

- a) receives Report RCN12-01-09 on the Lee Valley Community Dam; and**
- b) notes that the proposal is for the Dam to be operated by a community owned company of which Council will be a shareholder recognising both its urban water and general water management interests; and**
- c) notes that it is not intended that the company be a council controlled organisation but that Council interests can be adequately accounted for through any water allocation regime in place under the Tasman Resource Management Plan, through any directorships on the Board of the company, and through the proposed funding arrangements; and**
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Appendices:

Appendix 1: Bibliography of previous reports

Appendix 2: Draft Long Term Plan text for the proposed Lee Valley Community Dam

Appendix 1

Reports to support the Lee Valley Dam proposal cover the following

- Determination of irrigation demand - Agfirst Consultants (Nelson)
- Assessment of community/industry water demand - Tasman District Council
- Modelling of groundwater system and groundwater/surface water interaction – GNS Science
- Catchment hydrology – Tonkin & Taylor
- Modelling of surface water system (incorporating water demand and groundwater requirements as above) to determine reservoir storage requirements – Tonkin & Taylor
- Dam site identification and optimisation – Tonkin & Taylor
- Geotechnical investigations – Tonkin & Taylor
- Dam design – Tonkin & Taylor
- Operating regime – Tonkin & Taylor
- Dambreak hazard assessment – Tonkin & Taylor
- Costing of capital works – Tonkin & Taylor, with review input from Earthworks and Civil Marlborough Limited, and The Breen Construction Company Ltd
- Assessment of land tenure – information provided by Tasman District Council
- Assessment of replacement access requirements – Tonkin & Taylor and WWAC, in consultation with land owners and occupiers
- Assessment of vegetation values – Uruwhenua Botanicals (Dr Philip Simpson) and Tonkin & Taylor
- Assessment of indigenous wildlife values – Tonkin & Taylor
- Aquatic ecology (instream requirements, water quality and fish passage) – Cawthron Institute
- Tangata whenua perspectives – Tiakina Te Taiao
- Assessment of recreational values – Rob Greenaway & Associates
- Assessment of environmental mitigation requirements and options – Tonkin & Taylor
- Assessment of water allocation methods and RMA implications– Landcare Research and Tonkin & Taylor
- Assessment of water distribution enhancement requirements – Landcare Research and Agfirst Consultants
- Identification of scheme ownership structure options - Northington Partners
- Financial modelling - Northington Partners, with input from Agfirst Consultants and Landcare Research

Critical aspects of the investigations have been independently peer reviewed as follows:

- Water resource investigations covering water demand, groundwater and surface
- water hydrology, and storage assessment – Dr Vince Bidwell (Lincoln Ventures, Lincoln University)
- Geotechnical investigations, dam design, dambreak hazard assessment, and flood hydrology – Dr Trevor Matusckha (Engineering Geology Ltd).
- Governance Options – Price Waterhouse Coopers

Appendix 2 – Draft Long Term Plan Text

Lee Valley Dam proposal – draft wording for the Long Term Plan 2012-2022

Summary

Tasman is one of the most significant farming and horticulture regions in New Zealand and combined with the fertile soils of the Waimea plains and high sunshine hours our region produces high quality horticultural and viticultural products. The main water source for this area is the Wairoa/Waimea Rivers and the aquifers underlying the area which are replenished either directly or indirectly by these rivers. All residential, business and rural water on the plains are supplied from these aquifers. However in times of drought there is an acute shortage of water. For provision of adequate flows in the river and to protect against seawater intrusion in the aquifer near the coast substantially higher amounts of water needs to be left in the rivers. Studies show that the ideal minimum flow for plant, fish and other life in the river should be approximately 1100 litres per second (l/s). However if we make provision for this amount of water in the lower river there would need to be a cutback in water allocation of about 70%. The current method of rationing water use is only a holding pattern. If water was rationed to this level then a cease take order would have had to be imposed for at least part of the year, in four out of the last five years.

Water cutbacks of 70% have been assessed as reducing income to our region from agriculture of \$440 million over 25 years. In addition to needing greater water flows for irrigation and environmental reasons, Council also needs to ensure that there is a secure water supply for the projected population increases in Richmond, Brightwater, and Wakefield.

To meet these needs Tasman District Council (TDC) and the Waimea Water Augmentation Committee (WWAC) are proposing that a dam be built in the Lee Valley that would hold 13.4 million cubic metres of water. The cost of the Dam would be about \$41.6 million (in 2010 dollars) and provide water for both irrigation and urban supply to the equivalent of 7665 ha. It would also provide increased water flow in the Waimea River to; preserve environmental flow requirements, recharge the underlying aquifers during periods of drought, provide water in the rivers for recreation during summer, and provide a secure water supply to Richmond, Brightwater and Wakefield for the long term (100 years). The dam is being designed to have sufficient water to manage a 1 in 66 year drought.

It is proposed that the dam be owned by a co-operative company with Council purchasing shares on behalf of residents and businesses to meet its share of water requirements for water supply and environmental flows.

The Tasman District Council is seeking public input before the project is developed further. There are a number of steps that need to be achieved before this project would commence as well as further opportunities for the public to have input. Following the consideration of submissions on the Draft Long Term Plan in May 2012 Council will decide whether to include this project in the final LTP and to undertake further consultation on it.

Key features

Key features of the proposed \$42 million Lee Valley Dam would be:

Assumption	Detail	Estimated Value
Capital Cost	Estimated by Tonkin and Taylor	\$41.6 m (2010)
Construction Period	Period between commencement of construction and commissioning of the dam	2 years
Size	Volume of the reservoir	13.4 million cubic metres
Base Case Area within scheme	Actual area serviced by the scheme	total equivalence zone of effect 6300 ha
Operating costs	To cover repairs and maintenance and scheme administration costs	\$400,000 per annum
Hydro power station	Small hydro power station, owned separately from the dam and generating 6.2GwHr/year of power each year	Approx \$4.5 million. Costs would be recovered from the sale of electricity.

As a comparison the Nelson City Council Maitai Dam holds 4.0 million cubic metres of water, but this is mainly used for residential and businesses and not for irrigation purposes.

The dam would be approximately 52 metres high and constructed of rockfill with a concrete face. It would take approximately two years to build and one to three months to fill, depending on the time of year filling starts.

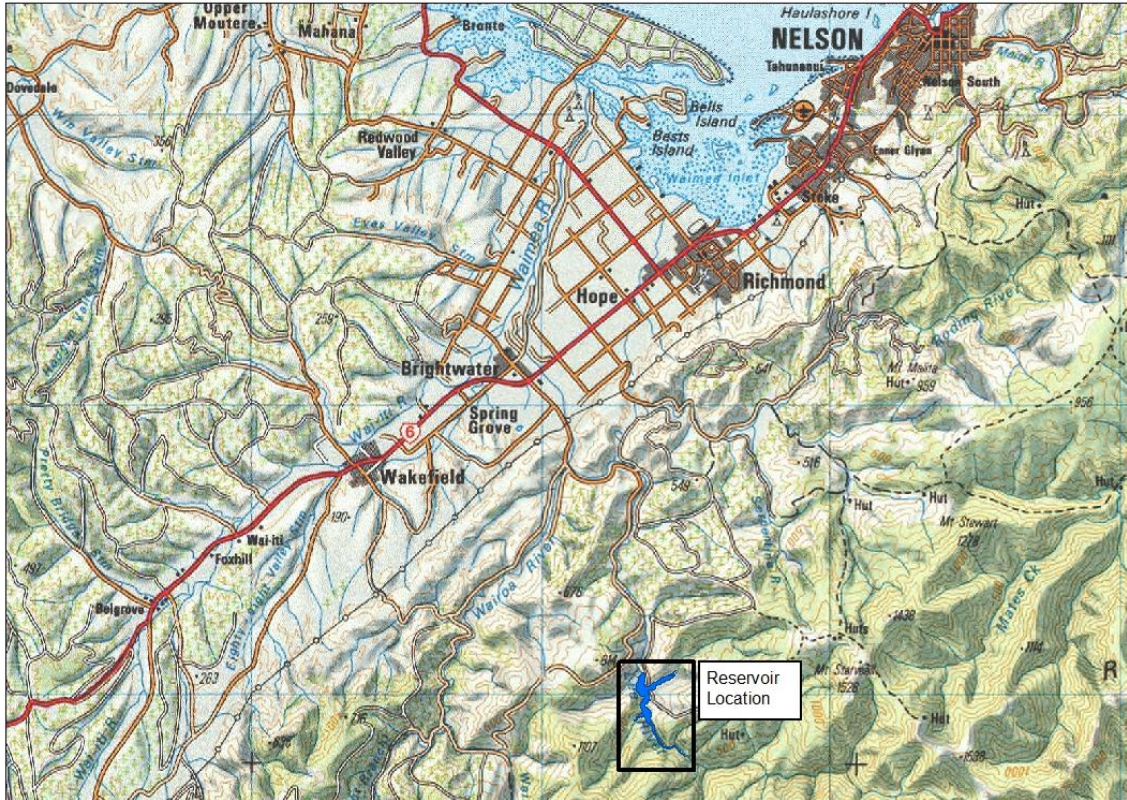
Side box

Who is the Waimea Water Augmentation Committee (WWAC)?

The Waimea Water Augmentation Committee is a community group that has come together with a common interest in augmenting water supplies to resolve the acute water shortage problems of the Waimea Basin. It includes representatives elected by the Waimea Basin Water Users which comprises more than 400 water permit holders from the area. The committee also includes local iwi and environmental interests represented by Fish & Game and the Dept of Conservation. Tasman District and Nelson City Councils represent the wider community and are represented by Councillors and Council staff who have knowledge of the water resource and expertise in water management planning and infrastructural development planning. The committee members are unpaid and have worked on behalf of their community for the long term good. Considerable time has been spent by the committee members over the last eight years attending meetings, workshops and liaising with local and central government as well as attending community meetings and keeping in touch with their zone members and sectors. The in-kind cost of committee member's contribution is very significant and is acknowledged and appreciated by Council.

Details of proposal

Proposed location of the dam



Why we need a Dam?

The 2001 drought showed we have an acute water shortage and that current water allocations will exceed the capacity of the system. During this drought the Waimea River went dry for several weeks, salt water contamination affected coastal water takes from bores and wells and there was considerable impact on the river habitat and numerous complaints of the aesthetic and ecological impacts on the river. Council and members of WWAC have considered what the minimum water flow in the Waimea River is and proposed a low flow in the lower river of 1100 l/s. If this limit was set then water takes should be set to about 70% of the current allocations and users would have been required to cease taking water in four of the last five years.

The economic loss to productivity is in the order of \$440 million over 25 years if water allocations are cut back to achieve the recommended environmental flows.

The population of Richmond, Brightwater and Wakefield and surrounding area is currently 23,700 and this is expected to increase to 30,000 by 2031. Water for residents and businesses in this area are currently supplied from water pumped from aquifers located at bottom of Queen Street. These pumps are located near the Waimea estuary and therefore there is a risk of salt water intrusion.

Environmental benefits of the Dam

The Wairoa/Waimea/Lee river system as well as contributing water from the Roding is important to the whole river system. The lower river system, the Wairoa River below the gorge and the Waimea River are severely impacted in terms of their environmental, aesthetic and recreational values by low flows. The amount of water left in the river system is exacerbated by abstraction from groundwater and surface water as well as the coastal springs which are valued by iwi. The run-of-the-river water released down river to replenish river flows and aquifer recharge will minimise seawater intrusion at the coastal fringes. The proposed Dam has multiple intakes so discharge quality is proposed to be managed to enhance the quality of the water released. A minimum flow of 500 l/s all the time below dam and maintenance of 1100 l/s at the lower Waimea River through increasing water releases will benefit not only consumptive users but also the environmental, recreational and aesthetic values. Flushing flow capability also built into dam design would provide positive benefits for the river to clear algae.

The environmental flow component is proposed to be guaranteed through an Environmental Trust that will be custodian on this matter to ensure the long term environmental benefits of the dam are maintained and enhanced.

Alternatives to the Dam

Regional water supply options have been looked at for the whole region going back to the 70's by both the then Nelson Catchment and Regional Water Board and the Nelson Marlborough Regional Council. A further updated Tasman Regional Water Study was completed in 2003. This study overviewed all past options for the catchments east of Takaka Hill.

Specifically to the Waimea Basin – the Wairoa Gorge Dam and the Buller Option were considered. The Wairoa Gorge Dam (high Dam) was not seen to be suitable today with the development in the area occurring since the 70's and the area it will drown above the Wairoa Gorge. The Buller option was deemed too expensive (\$115+M in 2003 dollars). An in catchment solution was seen as ideal and a site up the Wairoa left branch was identified in that study as a possibility.

Lake Rotoiti was also raised but there are legal issues with the lake being in a National Park and also significant cost of pumping and piping to the Waimea. Waste water from the Bells Island pond also was looked at but both the treatment and the quality required for food production and insufficient volumes for the needs were seen as shortcomings.

Stage one Waimea water Augmentation Study – produced by the Waimea Water Augmentation Committee (2004-2007) looked at a range of options and 18 sites were considered both in the Wai-iti/Wairoa and Lee catchments – these were then narrowed down to two, with the Lee Catchment recommended to be the preferred area for a augmentation dam.

- Those properties within the yellow area on the map will be able to obtain water at the equivalent of 30mm per ha per week.
- The blue area, mainly Richmond and dark green area will be linked in through the Waimea East Irrigation Company and can be provided water through the Council's water supply service.
- The current proposal will enable water to be provided to land outside of the yellow, blue and green areas, for example to Nelson City Council (pink), which has assisted with funding of the studies for the dam.
- Properties that are proposed to be rated for access to the water, but do not wish to use it will have the option of transferring their water to others. However the rating liability would remain linked to the originating land

How would the dam be paid for? :

As previously mentioned the cost of the dam is estimated at \$41.6 million. Further work is required to determine the amount to be paid by each party but in summary it is proposed that the capital and operating costs would be met from the following groups

- Irrigators for water for irrigation – this is estimated at \$420 to \$520 per hectare p.a.
- Residents and businesses for their share of the water for business and household use. This is estimated to add an extra 9 to 11 cents per cubic metre from 2016/17 and is included in the calculations for water costs set out on page **xx** of this plan.
- All landowners to pay for a share of the water that will be used to improve the environment. The Council has budgeted \$6.2 million as this share of the \$12.4 million for improving the environment. To minimise or spread the costs to ratepayers the Council will investigate a number of options, including assets sales and spreading the terms of the payment for this share.
- A contribution from Central Government and Nelson City Council towards the capital costs in recognition of the environmental and economic benefits of the project to the wider region and New Zealand.
- Any operating costs associated with water rights that Nelson City Council may incur if they decide to use any for their urban water supply.
- The dam offers a small hydrogenation opportunity of approximately 6.2GwHr/year. The economic analysis indicates the hydro component to be cost positive over time. The cost of the hydro component is estimated to be \$4.5 M and is not included in feasibility costing for the dam itself.

Other options for paying for the water

The Waimea Water Augmentation Committee (WWAC) – looked at charging on a per cubic metre basis. However this was considered to be too insecure in terms of a stable funding system and distributing the cost for the dam equitably.

Crop demand will vary depending on what is planted and crops could change – so a soil based allocation was considered most appropriate. This also guarantees the availability of water for the range of crops that can be grown in the District. For example a wet winter will increase prices as not as much water would be used. WWAC considered that cost based on hectares with urban demand converted on the same basis – is the most fair and equitable approach to a strategic long term project as this. This has been the case for other schemes e.g. Wai-iti Dam

Ownership of the Dam

It is proposed that the dam be owned by a co-operative company with ‘A’ and ‘B’ shares. ‘A’ shares would come with voting rights and ‘B’ shares with representation on the board only. Council would appoint one or two directors to represent its interests of provision of water for environmental benefits and access to water for reticulation

Consultation

The proposed dam is the largest project that Council is proposing to undertake and there are a number of steps to be considered and consulted on before a final decision to proceed with the dam is made. These steps are:

By June 2012

1. Decision on whether to include funding towards the dam in the final Long Term Plan. Consultation will be part of the Draft Long Term Plan.

By June 2013

2. Decision on the best form of ownership of the dam. This will be consulted on during 2012/2013.
3. Decision on how the costs will be divided. This will be consulted on during 2012/2013.
4. Obtaining Resource and Building consents for the dam. Separate consultation processes are required under the Resource Management Act.

Some of these steps may be combined, but there will be opportunity for the public to have input into the proposals for each of these items.

At this stage Council is seeking the public’s view on whether to include funding for the dam in the final Long Term Plan. There are significant advantages and disadvantages of the project to be considered and therefore Council would like as many people as possible to have input into the proposal. Submissions will be carefully considered by Council before any decision on whether or not to proceed to the next step of the Dam proposal. Refer to page xx for information on how to make a submission. Because of the significance and complexity of this project Council has held separate presentations on the proposed dam at with irrigators during December.

The public are invited to come along to a public drop-in days on xx March at xxxxx and xx March at xxxxx to discuss the proposed dam. Staff and Councillors will be available from 10am to 6pm. You can also find out more information in the brochure Council has produced on the proposed dam. The brochure is available on the Council website www.tasman.govt.nz or from Council offices and libraries.

Next steps

Following consultation as part of this ten year plan Council will decide whether or not to proceed with providing funding for the dam in the final Long Term Plan. If funding is approved then Council/WWAC will commence negotiation of land purchase/access from the private owners, Dept of Conservation, the Crown and iwi – who have forestry land within the dam location earmarked for treaty settlement.

If the Council decides to proceed it will then commence preparing the information required to apply for resource consents. A detailed design of the dam would also be prepared. This is expected to be completed by end of 2012.

As noted above, further consultation with the public will be undertaken once the ownership model for the proposed dam is developed and a preferred option identified.