

# Waimea Water Augmentation Committee

Ministerial Briefing Paper on

**Feasibility Study of the Upper Lee Catchment to provide water storage for long term irrigation and community supplies in the Waimea Basin.**

**Beehive, Wellington, 7 July 2008.**



## Waimea Water Augmentation Committee

The Waimea Water Augmentation Committee (WWAC) is a community group formed to address water supply issues for the Waimea Plains. The group includes representatives elected by the Waimea Basin Water Users Group, Tasman District Council, Nelson City Council, Fish & Game, Department of Conservation and local iwi. The inclusion and enormous voluntary input from this range of interest groups and stakeholders from the outset of the project has been invaluable to the smooth development and completion of phase 1 of the project. WWAC is now progressing phase 2 studies.

The “Performance Validation Programme Report” (Sutherland 2007) which looks at the project background, objectives, milestones, organisation, reporting, dissemination of information and financial management, concluded with the following statement at the completion of phase one of the project:

“ The project is an excellent model of what can be achieved with the right structure, people and processes in place.”

Sutherland 2007





## Background

### Why do we need water augmentation?

Historically the Waimea Basin has been short of water for irrigation, urban and industrial supply. Water resources are currently over-allocated by 22% in drought conditions for an inadequate environmental flow of 225 litres per second. If adequate environmental flows of greater than 1000 litres per second are considered in the river the over-allocation exceeds 50 %.

At the moment about 3700 hectares of land has water permits for irrigation, but a further 1500 hectares could be irrigated if more water was available. An additional 550ha adjacent to the Waimea Plains could also be irrigated. With continuing growth in the district there is increasing demand for water supply to the towns and industry. Potential future regional urban water supply demand is estimated to be equivalent to 440ha in 100 years.

All water users have had to cope with severe water restrictions over the last few years during dry seasons. This has not only caused significant production cutbacks for irrigated crops leading to economic loss, but also affected the important environmental values of the rivers and the coastal springs that are highly valued by the community and local iwi.

Drawing off water, both from groundwater and the river has a significant detrimental effect on the low flows of the river and leads to salt water intrusion in the aquifers. The Wairoa/Waimea Rivers are the water sources that recharge the aquifers supplying irrigation and urban water to the Waimea Plains and Richmond urban area.

## Feasibility studies into water augmentation for the Waimea Basin - Upper Lee Catchment study

### Project progress

The key aim was to complete a study into the feasibility of storing water in the upper parts of the Lee catchment which would then be used to enhance or augment the water available down stream on the Waimea Plains. Essentially the dam would harvest high winter flows for release over summer. This would maintain minimum flow levels in both the Waimea River and the underground aquifers.

This in turn would provide security of supply of water for irrigation and other demand from the community for up to a 100 year time frame and is an excellent example of sustainable use of a renewable resource.

### Phase 1

Feasibility investigations were completed in June 2007 and identified a site in the Upper Lee catchment as the most suitable for detailed investigation as a possible dam site. The four main components of the investigations were:

- Analysis of current water demand and availability.
- Identification of storage site options and water delivery methods and costs.
- Environmental assessment and economic analysis of the scenarios with and without augmentation.
- Water allocation for optimisation of water use, the environmental and community benefits and funding.

Phase 1 received a Sustainable Farming Fund (SFF) grant of \$240,000 representing 50% of the cash cost of the project over three years. Irrigators from the Waimea Plains including the Waimea East Irrigation Scheme, Tasman District Council, Nelson City Council and the Fish & Game Council met the other 50% of the cash cost.



## Phase 2

Investigations began in July 2007. These investigations were scheduled over two years to:

- Address geotechnical uncertainties (including suitability of materials)
- Refine dam breach flow path with detailed survey information
- Optimise dam site/top water level in relation to key sites / land tenure / detailed economic analysis.
- Include environmental investigations and detailed cultural impact assessment from iwi.
- Involve community in ongoing consultation and effects assessment
- Obtain feedback on the affordability of the project.
- Make recommendations for the next steps - including land acquisition, consenting, building, ownership and management.

Phase 2 secured a Sustainable Farming Fund (SFF) grant of \$400,000 over two years. This represents 26% of the total cash budget for this phase of the project of \$1.519 million. Water users have contributed 74% of the cost.

## Current situation

In a report to WWAC the consultants have recently identified issues with the selected site, including unstable land and less than optimal building materials. While neither of these issues is insurmountable, the consultants have identified a site some 1.2km upstream of the present proposed dam site that preliminary geotechnical investigations indicate will be more suitable and provide significant cost savings.

WWAC has agreed to the recommendation that the Phase 2 feasibility study be extended to undertake a staged investigation of foundation condition at sites upstream. All other aspects of the investigations, including environmental, economic and ecological are proceeding as scheduled.

## Beyond Phase 2

WWAC has put considerable work into its strategic plan to achieve the final outcome of completing and commissioning the dam. The parts to follow after Phase 2 would be:

### Phase 3

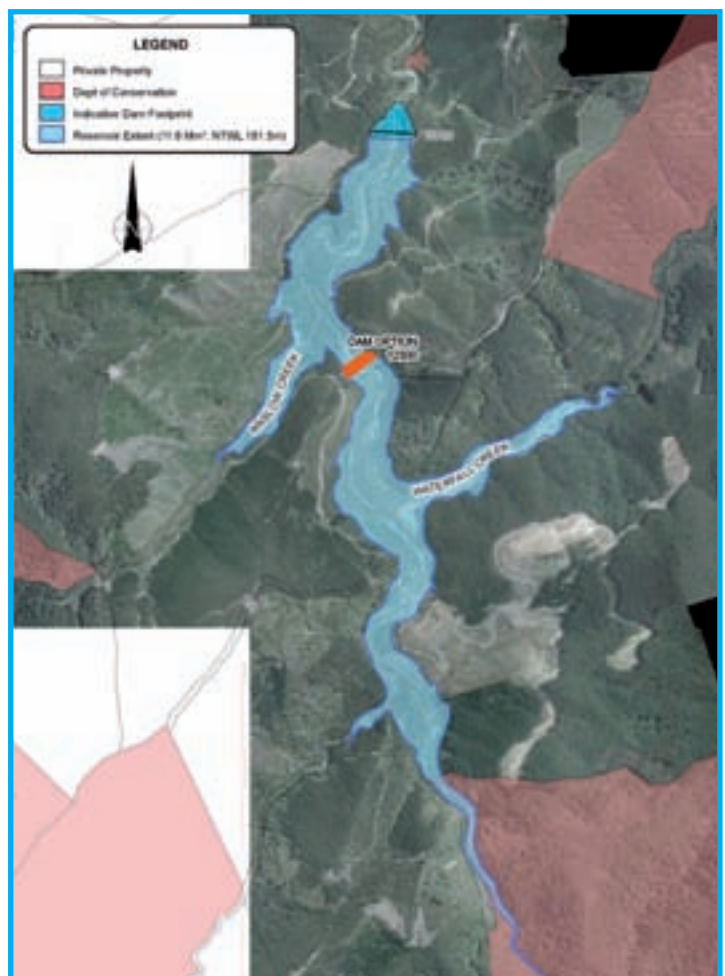
Ownership structure and funding  
Land acquisition and consents  
Planning changes  
Hydro electric

### Phase 4

Tender  
Dam construction - project management/  
overview  
Dam and water management

## Optimal time frame for progress on Phase 3 and 4

2009 -2010 consent  
2010 -2011 detail design drawings tender  
2012 start construction  
2014 dam complete  
2015 dam operational



Approximate Lee Dam footprint for Site 1, also showing Site 2 currently under investigation.





## Summary

WWAC has performed well in progressing this project to Phase 2. The partnership between water users, councils, iwi and statutory bodies is working well. This is truly a community project with a wide range of benefits including community, environmental and recreational, providing for the use of a renewable resource in a sustainable and efficient way for the present and future of the Waimea Basin and the wider region. This in turn provides for the continued well being and prosperity of the community. The hydro electric option has the capacity to make this an energy-neutral project.

The Economic Development Agency regional strategy identifies the Lee Dam as a priority for the region and supports the WWAC initiatives.

WWAC would appreciate support from Government to progress this regionally significant project.

## Support

- 1.** WWAC seeks the support and facilitation of the appropriate ministers through the process of acquisition of Crown forest land and DOC forest park, both of which have small parcels of land within the dam footprint area.
- 2.** The community has made significant financial input into this project and appreciates the support it has received to date from the Sustainable Farming Fund. WWAC members have made a significant voluntary contribution. The committee seeks direction from the ministers for the options for support from Government, financial or otherwise, to progress this regionally important project to completion.

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