

## WW Governance Group

### AGENDA

WHEN 23 June 2016  
WHERE Meeting Room 1, Shed 39  
FILE NUMBER ENV/05/01/57-v1

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- |        |  |                      |
|--------|--|----------------------|
| Item 1 | <b>Welcome and apologies</b>           |                      |
| Item 2 | <b>Interests register</b>              |                      |
| Item 3 | <b>Confirmation of meeting minutes</b> |                      |
| Item 4 | Project Director's report              | Michael Bassett-Foss |
| Item 5 | Finances                               | Vera Li              |
| Item 6 | Feasibility                            | Bruce Geden          |
| Item 7 | Farmer demand                          | Michael Bassett-Foss |
| Item 8 | Comms and engagement update            | Lisa Sims            |



## Interests register (as of April 2016)

Name	Involvement in other organisations/interests
<b>Bob Francis</b>	<ul style="list-style-type: none"> <li>• Chair Heartland Wairarapa</li> <li>• Chair Aratoi Foundation</li> <li>• Chair Pukaha Mount Bruce, National Wildlife Centre</li> <li>• Chair Wings over Wairarapa</li> <li>• Member Wairarapa Development Group</li> <li>• Chair Wairarapa Healthy Homes</li> <li>• Member Wairarapa Irrigation Trust 2002 – Present</li> <li>• Member WW Working Group</li> <li>• Trustee Wairarapa Arts Festival, Kokomai</li> <li>• Chair of the Te Kāuru Upper Ruamahanga River Floodplain Management Plan subcommittee</li> </ul>
<b>Bob Tosswill</b>	<ul style="list-style-type: none"> <li>• Inaugural and current chair of Wairarapa Regional Irrigation Trust (since 2007) which has lead the case for irrigation development in the Wairarapa</li> <li>• WRIT representative on Leadership Group and Stakeholders Advisory Group and part of WW Working Group</li> <li>• Formed Wairarapa Water User’s group for existing irrigators</li> <li>• Member of Environmental Defence Society and have attended some key conferences esp. leading to establishment of Land &amp; Water Forum</li> <li>• Member of various local rural groups</li> <li>• Note: has a water race through his property in the Wairarapa</li> <li>• Farms in an area likely to be in the command area for the possible Waiohine River investigation which has recently been confirmed as being considered for on-farm storage.</li> </ul>
<b>Mandy Armstrong</b>	<ul style="list-style-type: none"> <li>• Involved with Wairarapa community networks: organic farming, environmental advocacy with Sustainable Wairarapa</li> <li>• Greater Wellington Regional Council’s Wairarapa Water Use Project (<a href="http://www.wairarapawater.org.nz">http://www.wairarapawater.org.nz</a>) – Member of Leadership (Governance) Team as the representative for the environment and recreation consortium.</li> <li>• Leave No Trace NZ (<a href="http://www.leavenotrace.org.nz">http://www.leavenotrace.org.nz</a>) – board member.</li> </ul>
<b>Jim Lynch</b>	<ul style="list-style-type: none"> <li>• Owns a 47ha farm in the Carterton District.</li> <li>• Farm is adjacent to a section of the Ruamahanga River which would be used to convey water if the Project proceeded with Tividale.</li> <li>• Jim Lynch has a small farm in the indicative irrigable area, potentially served by the Tividale and Black Creek schemes.</li> </ul>
<b>Jason Kerehi</b>	<ul style="list-style-type: none"> <li>• Rangitane Settlement Negotiations Trust – Lead negotiator</li> <li>• Rangitane Tu Mai Ra – Trustee</li> <li>• Wairarapa DHB – Director Maori Health</li> </ul>

Name	Involvement in other organisations/interests
<b>Nelson Rangi</b>	<ul style="list-style-type: none"> <li>• Chair, Kahungunu ki Wairarapa iwi authority</li> <li>• Ara Tahi - iwi/GWRC partnership</li> <li>• Ngati Kahungunu Iwi Finance &amp; Audit Committee</li> <li>• Ngati Kahungunu Iwi Inc. Board of Directors</li> <li>• Wairarapa Moana Wetlands Group</li> <li>• Masterton district Council – Maori Liaison Task Group Caucus</li> <li>• Wairarapa Police – Maori Advisory Board</li> </ul>
<b>John Booth</b>	<ul style="list-style-type: none"> <li>• Mayor of Carterton District Council</li> <li>• Owner of a 160ha farm in Dakins Road, Carterton</li> <li>• Chair of Carterton District Water Race Committee</li> <li>• Have Taratahi water race on property</li> <li>• Member of Carterton District Council Wastewater Committee</li> <li>• Director of Emquip NZ (heavy machinery import and exporting)</li> <li>• Existing irrigation consent holder and user</li> </ul>
<b>Chris Laidlaw</b>	<ul style="list-style-type: none"> <li>• Chair, Greater Wellington Regional Council</li> <li>• Chair, Te Upoko Taiao Natural Resources Committee</li> <li>• Deputy Chair, Wellington Water Committee</li> <li>• Member, Wellington Regional Strategy Committee</li> <li>• Deputy Chair, Wellington Regional Transport Committee</li> <li>• Member Nauranga to Airport Transport Governance Group</li> <li>• Member, CDEM Committee</li> <li>• Member Ruamahanga Whaitua Committee</li> <li>• Member of Mayoral Forum</li> <li>• Trustee, Leadership New Zealand,</li> <li>• Board Member, Capital and Coast DHB</li> <li>• Ratepayer, South Wairarapa District Council</li> </ul>

## WW Governance Group

### MINUTES

WHEN 19 May 2016

WHERE/TIME Meeting Room 1, Shed 39

#### ATTENDEES

Members Mandy Armstrong, Jason Kerehi, Chris Laidlaw, Bob Francis, Nelson Rangi, Bob Tosswill

Officers Bruce Geden, Michael Bassett-Foss, Nigel Corry

FILE NUMBER ENV/05/01/57–v1

#### 1. **Welcome/apologies**

John Booth, Jim Lynch, Greg Campbell, Elsie Diederichsen.

#### 2. **Conflict of interest declarations**

No changes to interests register.

#### 3. **Confirmation of minutes of meeting 14 April 2016**

*The Group confirmed the minutes of the meeting of 14 April 2016.*

*Moved: Jason/Bob F*

#### 4. **Project Director's report**

Report taken as read.

- Drilling work programme is completed within budget.

Last SAG meeting:

- Good discussion around NPS and wording 'maintain or improve'.
- Membership discussion – insufficient environmental voices around the table. This needs to be done in order to better identify environmental issues/perspectives.
- It was also suggested that people from outside the membership present at the SAG meetings.

*Moved: Jason/Mandy*

## **5. Finance report**

Report taken as read.

*Moved: Nelson/Mandy*

## **6. Feasibility update**

Report taken as read.

- Drilling programme is under budget.
- Drilling reports due in the next weeks.

*Moved: Mandy/Bob T*

## **7. Farmer Demand**

- Suggested that it might be a good idea to go back to the farmers who have been interviewed one-on-one to ask how they found the interview process.
- Field Days: the attendance was a little bit disappointing – this could be because it's too far away in the future for dryland farmers to be relevant. This is not such an issue for current irrigators.
- Will need extra skill & capacity in the farmer demand area.
- Need to develop information about the declining reliability of water in Wairarapa.
- Following up with the attendees of the Field Days to keep them engaged.
- Further engagement with WWUS.
- Progressing the formations of small clusters of farmers (pod groups), in which farmers can more easily be involved in discussions.

*Moved: Jason/Nelson*

## **8. Comms and engagement**

Report taken as read.

- A 2 page supplement, about Water Wairarapa will be in the next INZ magazine. Waitua and WWUS will also have pages in the magazine.
- A copy of the magazine will be provided to the GG members.
- WW has to come across as a water storage project with many benefits (water management), and not as an irrigation project.
- Climate change is important as a driver and consideration for the project.
- The message needs to get across that the Wairarapa is receiving less water in its headwaters.

*Moved: Bob F/Mandy*

Meeting closed: 2.15pm

## WW Governance Group

DATE 23 June 2016  
AUTHOR Michael Bassett-Foss  
SUBJECT Item 4: Project Director's report  
FILE NUMBER WWUP-7-364

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### 1. Introduction

The focus of work for the project team since the 19 May Governance Group meeting has been to complete the drilling programme of work and to ramp up the Stage 2a work programme involving financial modelling, Council engagement and farmer engagement.

The drilling programme and testing of core samples, part of Stage 1 Feasibility investigations, are complete with further analysis of results required. A more detailed update is provided in Item 4 of these papers.

Farmer engagement work focuses on refining the farmer database and framework for collecting and monitoring farmer information, and completing one-on-one farmer interviews. This will be further discussed in Item 5 of these papers.

Since the May meeting, IAF's Investment Advisory Committee has met and agreed to recommend to the Director General that Feasibility Phase Stage 2 investigations be funded. The paper work was being completed at the time of writing this report.

Provided elsewhere with these papers are the following topics:

- **Finances** – to end of May illustrate costs for the first eleven months of the financial year;
- **Feasibility work programme** – an update is provided on the status of investigations, particularly Stage 1 investigations and how they relate to Stage 2;
- **Farmer demand** – an update is provided on the current focus for the farmer demand work programme;
- **Communications and engagement** – provides an update on activity related to communications and engagement.

## 2. Financial modelling

The financial model will be developed using the existing capital cost estimates and forecasted operating costs.

The model will be developed to test different funding and operating models under a variety of water uptake scenarios. This will allow the project to accurately assess the viability of the Project and identify the development and operating parameters that must be achieved in order to pre-determine viability, assess risk and identify funding requirements.

## 3. Council work programme

Discussions during the engagement with Wairarapa Councils highlighted a number of items for Water Wairarapa to consider.

The items broadly relate to the following five themes:

- Economic and social
- Community Infrastructure
- Annual Plan funding
- Commercial support
- Community engagement

A high level draft Council work programme has been developed, which will be discussed further at the meeting.

Water Wairarapa submitted and presented at the hearings for the Annual Planning process of the three Wairarapa Councils.

## 4. Stakeholder Advisory Group

The last meeting of the Stakeholder Advisory Group (SAG) was held on 16 June. The agenda included an update on Stage 1 investigations, farmer engagement programme and plans for Stage 2. A presentation was also provided by Vern Brasell from Sustainable Wairarapa.

The next meeting is scheduled for 4 August. The agenda will include the final reporting from Stage 1, initial findings from Stage 2a and the work planned for Stage 2.

## 5. Recommendation

*That the WW Governance Group:*

1. *Receives the report.*
2. *Notes the contents.*

Report prepared by:

**Michael Bassett-Foss**  
Project Director



## WW Governance Group

DATE 23 June 2016  
AUTHOR Vera Li  
SUBJECT Item 5: Finance report  
FILE NUMBER WWUP-7-362

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### 1. Heading

The total spend on Water Wairarapa from July 2015 to May 2016 was \$1,681,945.

Project expenditure from July to October 2015 of \$210,188 was not matched by co-funding as the IAF contract was under review.

The total spent from November to May was \$1,471,756 and 50% of this cost (\$734,023) is subjected to funding by MPI.

Verbal confirmation was received from the Irrigation Acceleration Fund of co-funding the Stage 2 Feasibility investigations – GWRC will fund \$821.5K that will be matched by central government. This funding covers project costs up until December 2016.

The forecast total spend for the year to June 2016 is \$2,182k due to bringing forward feasibility phase investigations subject to confirmation of matching funding by IAF.

### 2. Recommendation

*That the WW Governance Group:*

1. *Receives the report.*
2. *Notes the contents.*

Report prepared by:

Vera Li  
Assistant Accountant

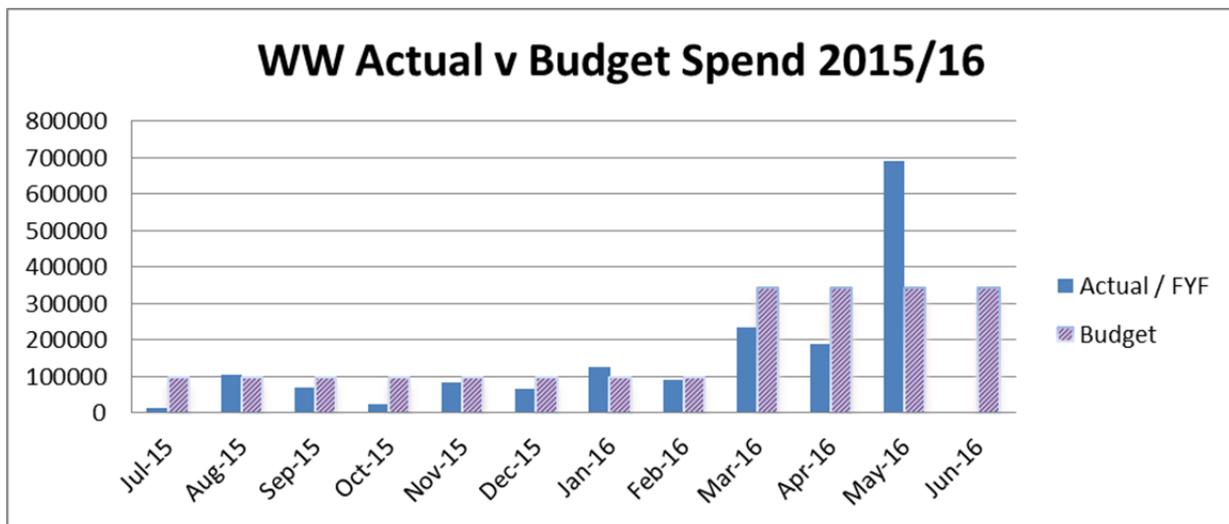
**Attachment:** Finance report

# WW Finance Report – May 2016

## Summary of spend and income all years

WWUP Summary PTD	Jun-12	Jun-13	Jun-14	Jun-15	YTD May-15		Total
	\$	\$	\$	\$	\$		\$
Income (IAF funding)	310,117	442,170	631,735	897,218	877,278	*	3,158,518
Operating Costs (IAF funded)	310,117	427,390	626,530	780,641	1,284,211		3,428,889
Capital Costs (Debt funded)	317,864	597,287	627,469	928,675	397,734		2,869,029
<b>Total Costs</b>	<b>627,981</b>	<b>1,024,677</b>	<b>1,253,999</b>	<b>1,709,316</b>	<b>1,681,945</b>		<b>6,297,918</b>
<b>Full Year Budget/Forecast</b>	<b>750,000</b>	<b>1,250,000</b>	<b>1,250,000</b>	<b>1,250,000</b>	<b>2,182,000</b>		<b>6,682,000</b>

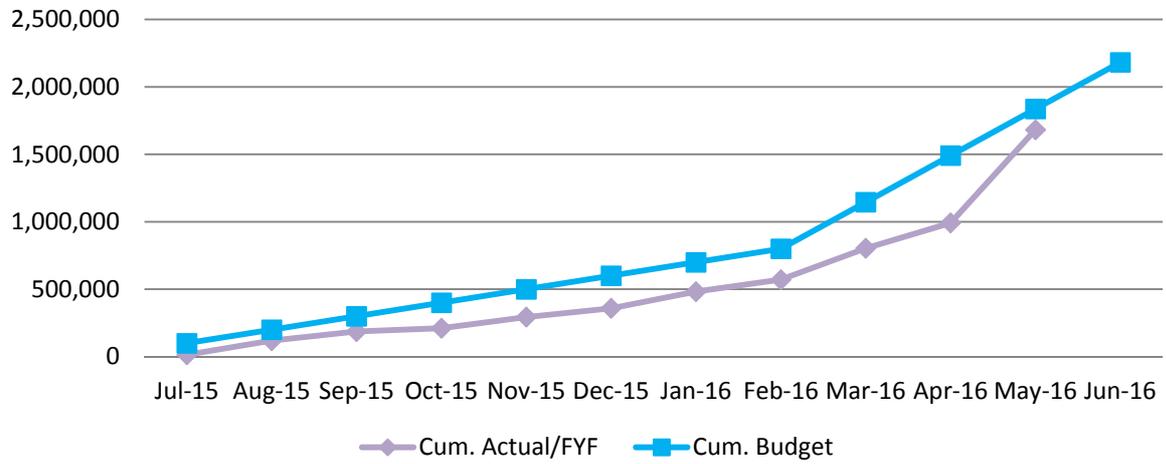
- Total spend on WW in all years is \$2,869,029 of which \$2,806,674 is shown as an asset under construction (AUC) on the GWRC Environment Balance Sheet.
- MPI have contributed a total of \$3,158,518 (50%) funding for the project.
- The original budget for the 2015/16 year was \$1,200,000. The forecast expenditure and IAF income for the year is \$2,182k and \$966k respectively.
- \*Note: \$308,403 out of 877,278 is the accrued revenue for 2015/16 from IAF co-funding claim# 3.



The above graph shows the monthly actual spend in blue and the budget in purple.

The average monthly actual spend from July 2015 to May 2016 was \$152,904 per month.

## WW Cummulative Spend v Budget 2015/16





## **WW Governance Group**

DATE 23 June 2016  
AUTHOR Bruce Geden  
SUBJECT Item 6: Feasibility  
FILE NUMBER WWUP-7-366

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### **1. Introduction**

This report summarises progress up to 15<sup>th</sup> June 2016 in respect of the feasibility investigations made since the last Governance Group meeting. It covers the following:

- Comparative Climatic Characteristics
- Feasibility Investigations Key Outputs & Linkages
- Stage 2 IAF Application Progress & IAF/CIIL Transition

### **2. Comparative Climatic Characteristics**

This is the first of 2 information pieces on climate; this is one is about Wairarapa's existing key climate metrics as they compare with other agriculture producing areas; the next one will be on climate change to be delivered once the latest information becomes available.

Sometimes the climatic characteristics of the Wairarapa valley are 'down-talked' in terms of its potential to grow agricultural produce e.g. it's too cold, too windy, too dry, not sunny enough etc.

Of course farmers must have the soils to grow the crops (annual crops through to permaculture). Wairarapa has the soils albeit that in some parts of the valley floor they are diverse i.e. they can literally vary from paddock to paddock. However, soils can be improved through the build-up in humus as has happened in formerly semi-arid South Island locations.

The table below points to the relative potential of the Wairarapa basin as a potential food bowl and compares it with other locations known for their agriculture production either through their natural climatic advantage and/or their artificially induced conditions supplemented by irrigation, shelter belts, frost cloths, soil conditioning etc.

### Key Climate Data for Representative Food Producing/Irrigation Localities (+ Wellington)

(Average Altitude MASL)	Gisborne (5m)	Napier (2m)	Water Wairarapa (100m)	Ruataniwha (Central HB) (200m)	Waimea (Appleby) (17m)	Central Plains (Darfield) (200m)	Opuha (Sth Canterbury) (26m)	Wellington Airport (13m)
Growing Degree Days (10° base) *	1748	1776	1209	1109	1101	1091	875	1470
Mean annual wind speed	3.4	13.8	13.8	11	7	13.1	9.4	25.8
Mean annual rainfall	1029	823	767	879	860	756	550	957
Mean annual days above 25°	45	44	40	40	23	45	17	6
Mean annual ground frosts	28	24	63.5	52	71	103.2	120	10.5
Mean annual sunshine hours	2294	2130	2031	1980	2533	1900	2015	2050
Mean annual days in soil moisture deficit	90	111	73	76	70	53	75	73
* <b>Growing degrees days</b> (GDD) is the average air temperature relative to a nominated base temperature (e.g. 10°C)				Gisborne, Opuha & Waimea soil moisture deficit data interpolated from climate maps			Wellington climate data included for comparison purposes only	

One of the best overall indicators of the ability to grow plants is the measure by the number of Growing Degree Days (GDD) - it measures the daily accumulated heat & is therefore an important indicator of climatic conditions for plant growth i.e. what plants can be grown where, subject to suitable soils.

### 3. Feasibility Investigations Key Outputs & Linkages

At the time of the last meeting the geotechnical drilling had just been completed, while drilling of the landslip was midway and proving to be difficult. Also the geotechnical reports were in the process of being compiled and edited at the same time as the Land Use Case Study report was being finalised. This signalled the completion of the Stage 1 investigations and the need for a review of the outputs.

Coincidentally, to assist with their understanding of our project, IAF/CIIL recently asked that we compile a status report for them principally to highlight how the findings made in Stage 1 will relate to Stage 2 i.e. how the investigation outcomes will be utilised or inform Stage 2 investigations. The full report, Stage 1 Findings and Stage 2 Linkages, is provided in **Appendix 1**.

The key linkages or implications for the Stage 2 investigations can be summarised as follows:

#### A. River Conveyance

Because the river was still far below the required flows to test 'conveyability', the project will continue to monitor the Tauweru River until the river has regained its 'normal' base flows such that flood flow data (4 cumecs) could be collected to make an informed decision about its potential conveyancing ability.

##### a) Informing Stage 2 Feasibility investigations

Once that information has been gathered, then it will be assessed to determine whether this particular element of the Tividale Scheme is viable. In theory, the answer should be either 'yes' or 'no', but in reality a conditional position might be the need to remove the crack willow from the stream banks.

#### B. Geotechnical Drilling

##### a) Principal Findings

A factual report, and an implications and recommendations report were produced, the key findings being:

1. There were **no fatal flaws** for either scheme – this is probably the most important overall finding
2. The findings provide a representative sample of the subterranean conditions; namely:
  - Wakamoekau dam site (3 holes)
  - Black Creek saddle site (1 hole)
  - Black Creek dam site (3 holes)
  - Landslide SW of Black Creek reservoir (1 hole)
  - Tividale dam site (3 holes)

3. **Overall**, the engineers considered findings as positive i.e. they came out better than anticipated based on their initial prefeasibility surface exposure findings.

Based on the information gathered from the general geotechnical findings, the initial observations are that:

1. **Tividale** is:

- less porous than expected – a good characteristic for holding water (less cost)
- being compacted sandstone (not greywacke) potentially makes it favourable for earthworks

2. **Black Creek (including Wakamoekau)** is:

- primary comprised on fractured greywacke
- even though this is variable it is sufficiently impermeable
- greywacke rock contains a portion of laumontite which is likely to have design implications
- because the greywacke is fractured makes it potentially favourable for earthworks (less cost)

3. The **saddle** (between Black Creek south & Wakamoekau) is:

- comprised of sandstone which is easily excavated (less cost)
- potentially makes it favourable for earthworks

4. **Landslide** SW of Black Creek is:

- comprised of extremely weak sandstones, conglomerates and carbonaceous mudstones (coal measures) overlying greywacke rock at a considerable depth
- the landslide is higher and distant relative to the reservoir and it is therefore “unlikely that reservoir seepage could exert a significant driving force on the landslide” (possibly more cost if a upstream blanketing is necessary)

## **b) Implications**

The T&T investigations came up with 3 categories of findings:

- a) Favourable outcomes
- b) Risks & issues
- c) Uncertain

In terms of the later, 2 items fall within this category, namely the landslide SW of Black Creek and the suitability of the Black Creek scheme greywacke rock as bulk fill. The reason they are ‘uncertain’ is we have less understanding of them and/or require further investigation to understand them sufficiently. More specifically, based on the T&T report, the individual geotechnical sites can be summarised as follows with respect to cost implications:

1. **Tividale** site cost assessment summary

- 6 items of no, unlikely or very minor change
- 1 item possible cost increase

- 1 item possible cost decrease
2. **Black Creek South** (including the landslide) site cost assessment summary
    - 5 items of no, unlikely or very minor change
    - 2 items possible cost increase
    - 1 item possible cost decrease
  3. **Wakamoekau** site cost assessment summary
    - 5 items of no, unlikely or very minor change
    - 1 item possible cost increase
  4. **Saddle** site cost assessment summary
    - 4 items of no, unlikely or very minor change
    - 1 item possible cost increase

**c) Informing Stage 2 Feasibility investigations**

The above investigations did not include any re-evaluation of the prefeasibility-derived capital costs; it only reviewed the general implications of the findings.

As a separate exercise leading into Stage 2, it has been planned that the opportunities and risks developed during the Prefeasibility phase be reviewed to the extent possible to establish how the additional knowledge gained from the drilling will better inform the capital costs.

In summary this will involve:

1. Liaising with LTC to answer queries and provide support for LTC’s financial modelling;
2. Updating construction cost estimates (most likely estimate and typical cost range) based on findings from Stage 1 Feasibility Geotechnical Investigations
3. Investigating wider opportunities for cost savings and risks for cost increases..

**Appendix 2** details the full scope of the work to be conducted in this regard.

**C. Farmer Demand**

The purpose of the case study evaluations was to ultimately provide farmers and land holders in the command area and beyond, with information on land uses that could be enabled with access to reliable water.

The land use assessments across the three properties are:

- Elm Grove – Dairy, mixed farming, apple orcharding.
- Easterbo – Livestock finishing, mixed farming, sheep dairy.
- Otahuao – Mixed farming, sheep dairy.

All case studies focused on three aspects of land use change: the financial performance of the new land use and how its farm surplus compared to a dryland baseline; the nutrient loss impact of the land use change; and the lifestyle and management implications of the new land use.

## a) Principal Findings

In summary the land use case study findings were as follows:

- i. Sheep Dairying
  - Has the potential to deliver significant returns above the Baseline Dryland system but is conditional on achieving the assumed lambing percentages and milk yields per ewe.
  - Carries risk due to the lack of information and uncertainty surrounding the sheep dairy market in both New Zealand and offshore together with high capital costs of establishment (in excess of \$4 million).
  - While sheep dairying may not appeal to some farmers, those willing to take a higher risk and grow this emerging industry have the opportunity to be rewarded
- ii. Mixed arable, specialist seeds and livestock finishing
  - Results in increased and reliable pasture and crop production with the potential to produce more intensive and higher value farming systems.
  - The greatest advantage of cash cropping is that it eliminates crop failures while increasing crop yields. Irrigation helps to establish annual grasses earlier, giving the farmer confidence to buy stock earlier in the autumn when prices are lower which leads to greater trading margins. Other benefits of this farming system include increases in total pasture production (+21 to +34%) and more animals traded, more reliable summer production, and varied trading opportunities
  - It is difficult to make an investment in irrigation pay under this livestock finishing scenario. This is due to the additional pasture production during the period from late spring until early autumn, which is when lamb and beef prices fall from seasonal highs to seasonal lows.
  - Easterbo's heavy soil types are limited for winter use when sheep and beef prices are rising (the opposite effect than described above), meaning it is not the most profitable enterprise. If the soil was free-draining, irrigation could be used in summer to maximise crop yields in winter, taking advantage of higher seasonal prices. In Canterbury, irrigated gravel soils growing high-yielding winter crops such as fodder beet are more profitable.
  - In reality, a model of cropping through summer to take advantage of irrigation, followed by livestock trading from autumn through to spring would be a better land use for Easterbo.
- iii. Dairying
  - Would result in a sustainable and repeatable pasture-based system that could be operated at or above the local average for milk production.
    - The Top 10% Operator model (medium-stocked) is likely to generate the best return. A relatively high level of skill and close monitoring would be needed to sustain performance.

- An average efficient operator model (lower-stocked) is likely to generate the lowest gross return. It runs at a relatively low level of intensity, making it simpler to operate and most likely to repeat the physical performance year-on-year.
  - A Top 10% Operator model (high-stocked) is likely to generate the highest level of physical performance but mid-range economic results. Given the capital invested and the exposure to volatile milk prices, along with larger environmental impacts, this is the least-preferred scenario.
  - Has the potential to generate a financial surplus before the cost of water and existing debt but it should be noted that this scenario assumes a price of \$6.40.
- iv. Apple Orchard
- Conversion from current land use to an irrigated apple orchard offers a significant increase in effective farm surplus for both the Average Efficient Operator and a Top 10% Operator.
  - Apple production is viable assuming the pre-requisite development capital can be secured. It will also require access to skilled orchard management and modern management systems.
  - A positive operating surplus can be achieved by an apple orchard at the end of year 5 by an Average Efficient Operator and the end of year 4 by a Top 10% Operator.
  - The success also depends on other factors including the availability of suitable varieties and rootstock, access to modern infrastructure (a local fruit packing facility and post-harvest facilities), skilled management and a supply of seasonal labour.

Field Days on each of the 3 case study farms were held on 12, 14 and 20 April. Each Field Day attracted around 45 participants, comprised of dryland farmers, current irrigators and rural services representatives.

## **b) Informing Stage 2 Feasibility investigations**

The case studies were to determine the on-farm revenues generated by existing, not 'new', land uses under an irrigation regime. This included the time and costs involved with converting the farm from its existing use to the proposed use but excluded the cost of water and interest on new debts.

The first full round of farmer interviews (i.e. once all farmers with the potential command area have had one-on-one interviews) is an ongoing task. Even though the information emanating from the case studies may be used in future financial modelling to help refine and/or supplement on-farm revenue estimates it will also form the basis of the understanding for the initial financial modelling work, which will ultimately develop water pricing scenarios. This will also provide more information on which to plan independent survey questions.

The case study 'fact sheets' will continued to be used during the Stage 2 investigations (farmer interviews) as a basis for discussions with farmers to demonstrate how irrigation could influence their future farm management decisions and in particular help guide their propensity to become a customer.

The ongoing farmer interviews not only establish a rapport with farmers but also will help in the development of metrics and reporting structures for farmer demand assessment as well as understanding existing farmer irrigator productivity/reliability.

As mentioned above, the farmer interviews supported by the case study information, will also help inform the independent survey which has been delayed until August/September. This will allow the findings from the current round of farmer interviews and financial modelling to inform the survey questions and format.

#### **4. Stage 2 IAF Application Progress & IAF/CIIL Transition**

Several matters need to be raised in this respect, namely

##### **A. Stage 2 IAF Application Progress**

Since the last Governance Group meeting the project team has been:

- informally advised that the Stage 2 application was accepted
- that it was going to the Investment Advisory Committee (IAC) for consideration; it was endorsed by that committee on 23 May
- we are now awaiting a signed copy of the contract
- that the contract will be back-dated to 1<sup>st</sup> May; this means that co-funding will be contiguous with Stage 1 as was hoped would be the case.

##### **B. IAF/CIIL - Regional Scale Irrigation Schemes**

On 18 May the Minister for Primary Industries announced that grant funding support for regional scale irrigation schemes in development will now be provided by Crown Irrigation Investments Ltd (CIIL) instead of the Ministry for Primary Industries (MPI).

We've been informed on 15 June by IAF that

*“One of the key areas of focus is contract reassignment from MPI to CIIL. This is for regional schemes that have an existing contract with MPI that includes IAF funding for work activity post-30 June. Contract reassignment will be managed through Deeds of Novation. The process for transferring these contracts is being developed by MPI and CIIL and will be discussed with affected schemes shortly.*

*The Project Team is also focussing on ensuring that schemes with applications currently being considered, or about to be submitted, are not disrupted by the transition, as well as working through the practical and logistical aspects of the transition for schemes (e.g. contact people, who to send reporting to, payment arrangements, etc.)*

*CIIL and MPI will work closely together to develop a work programme for the period from 1 July to 30 September to ensure the transition of grant funding supporting regional irrigation infrastructure is smooth. We will circulate an update on this work programme before 30 June.”*

## **5. Recommendation**

*That the WW Governance Group:*

- 1. Receives the report.*
- 2. Notes the contents.*

Report prepared by:

**Bruce Geden**  
Project Manager

**Appendix 1** - Stage 1 Findings and Stage 2 Linkages

**Appendix 2** - Geotechnical and Engineering Support for Financial Modelling

## **Water Wairarapa Feasibility Investigations - Stage 1 Findings and Stage 2 Linkages -**

Water Wairarapa's Stage 1 Feasibility investigations were conducted between 1<sup>st</sup> November 2015 and 31st May 2016. As a result of these investigations, various outputs were generated in accordance with the co-funding contract with IAF. This report addresses the principal findings in the context of how they will inform the forthcoming Stage 2 Feasibility investigations.

### **Constraints**

There are important constraints around the investigations and their resulting outputs due to:

- the influence of weather on the progress the investigation could make
- the deliberately limited scope of some of the investigations i.e. what they did and did not include e.g. the Geotechnical Assessment did not include any cost or design reassessment
- the investigation outputs reflecting an intermediate, not final, state because only partial funding was available ( the proposed Stage 1 work programme and funding originally ran up to 30<sup>th</sup> June 2016, but both were pro-rata'd back to 30<sup>th</sup> April 2016)

The Stage 1 reporting elements, as quoted from the IAF contract, were:

1. **River Conveyance** – i.e. *conveyancing assessment preliminary results*
2. **Geotechnical Assessment** – i.e. *the Wakamoekau, Black Creek and Tividale dam foundations and the landslide and Black Creek saddle*
3. **Farmer Demand** – i.e. *7 land use studies and education material*

### **1. River Conveyance**

The following details the stated contractual obligations with respect to this element:

#### **a) Deliverables:**

The stated deliverables were –

- 1) A preliminary report provided by 15 February 2016 summarising data to 31 January and an indication on the ability of the Tauweru River to convey storage water
- 2) A final report by 30 April 2016 detailing the data considered, methodologies and findings and conclusions as the ability of the Tauweru to convey stormed water to the command area over dry summer months

With respect to deliverable 1) above, the Progress Report up to 31 January 2016 reported:

*Part of the Stage 1 Feasibility investigations is monitoring the flows down the Tauweru River to establish whether its feasible to convey water down the river from the Tividale water storage dam.*

*In other words, what proportion would be lost to the surrounding environment and how much would be transported to where the water is pumped out of the Ruamahanga?*

*The following is a brief summary of progress during the last month:*

- *Temporary monitoring sites have been set on the Tauweru for the required gaugings.*
- *Temporary standalone water level transducers have been installed, gauged and cross-sections surveyed at the Tividale and Wakamoekau long-term sites.*
- *Detailed site reconnaissance is now being conducted at the Tauweru temporary flow sites to confirm final design details for PT ranges and installation and gauging infrastructure. The instruments will be installed as soon as possible.*
- *Options will be confirmed and priced for upgrading the existing Te Weraiti and Te Whiti flow sites to measure the range of flows needed for the WWUP work.*
- *The usefulness of installing a flow sensor at Castlehill or telemetering the Tividale site to give a tool for planning fieldwork will be considered give a method of confirming flows in the Tauweru.*
- *Gaugings on the Tauweru will begin as soon as conditions allow to build rating curves for temporary sites for the flow ranges to about 6m<sup>3</sup>/s. We need some good flows!*
- *Low flow concurrent gaugings of Tauweru will be done if river conditions drop to a level lower than previous low flow runs.*
- *Gaugings needed on the Wakamoekau to develop rating curve of temporary site and concurrent spot gaugings of the Black Creek.*

*It should be noted, that even though some existing monitoring equipment has been installed (free of charge to the project), the project has not been invoiced for any of the new additional equipment that has been ordered.*

*The IAF contract states that WWUP is report back on progress part of the Stage 1 Feasibility investigations is monitoring the flows down the Tauweru River to establish whether its feasible to convey water down the river from the Tividale water storage dam. In other words, what proportion would be lost to the surrounding environment and how much would be transported to where the water is pumped out of the Ruamahanga?*

*As a result of a very dry summer (e.g. 20% of normal rainfall in February) together with an ongoing high soil moist deficit (refer the attached maps), there were no substantial flow events to record in the Tauweru River - we continue to wait for these to start occurring. The soil has been so dry throughout this summer, that any rain that has fallen has been absorbed straight into the ground rather than flow down the rivers & streams as is required to start monitoring the flows.*

*Temporary standalone gauging equipment (water level transducers) has been installed and appropriate staff are available at short notice to measure flow events - essentially they would follow the flows down the catchment and monitor readings as they go. Approval was granted to recruit an Environmental Monitoring Officer to resource the WWUP hydrology gauging work, the position being advertised on 24th December. This person is now available to the project, but when we get usable data is totally dependent on the weather conditions.*

*With respect to deliverable 2) above, the Progress Report up to 31 April 2016 reported:*

*Part of the Stage 1 Feasibility investigations is monitoring the flows down the Tauweru River to establish whether its feasible to convey water down the river from the Tividale water storage dam i.e. what proportion would be lost to the surrounding environment and how much would be transported to where the water is pumped out of the Ruamahanga. During this reporting period, all of the new additional monitoring equipment required to monitor these flows was purchased and installed.*

*The IAF contract states that WWUP is report back on progress part of the Stage 1 Feasibility investigations is monitoring the flows down the Tauweru River to establish whether its feasible to convey water down the river from the Tividale water storage dam. In other words, what proportion would be lost to the surrounding environment and how much would be transported to where the water is pumped out of the Ruamahanga.*

*As a result of a very dry summer (i.e. average flow for May 2016 to date has been 0.284 m<sup>3</sup>/s - the long term average flow for May is 1.932 m<sup>3</sup>/s) together with an ongoing high soil moist deficit, no substantial flow events to record in the Tauweru River - we await for these to start occurring. As the soil has been so dry throughout this summer, any rain that has fallen has been absorbed straight into the ground rather than flow down the rivers & streams as is required to start monitoring the flows.*

*Temporary standalone gauging equipment (water level transducers) has been installed and appropriate staff are available at short notice to measure flow events - essentially they would follow the flows down the catchment and monitor readings as they go. When we get usable data is obviously totally dependent on the weather conditions.*

*At the time of writing this report, the river had risen to 0.6cumecs compared with the May average of 2cumecs – we need 4cumecs to test it.*

At the 9th April meeting between Water Wairarapa/ IAF/CIIL, it was agreed that, because the river was still far below the required flows to test ‘conveyability’, that the project would continue to monitor the Tauweru River until the river had regained its ‘normal’ base flows such that flood flow data (4 cumecs) could be collected to make an informed decision about its potential conveyancing ability.

#### **b) Informing Stage 2 Feasibility investigations**

Once that information has been gathered, then this will be assessed to determine whether this particular element of the Tividale Scheme is viable. In theory, the answer should be either ‘yes’ or ‘no’, but in reality a conditional position might be the need to remove the crack willow from the stream banks as they cause blockages, flooding and structural changes in waterways. If there was a need to do this, then a removal programme (usually by spraying willows down the stream length) could be factored in.

As has been discussed and reported on with IAF, no time deadline can be put when this information will be available because it is entirely subject to weather conditions – it will be therefore delivered as soon as possible as this issue is potentially crucial to the Tividale Scheme and its continued investigation. Until this happens Water Wairarapa will keep IAF/CII up to date with progress.

## 2. Geotechnical Assessment

The following details the stated contractual obligations with respect to this element:

### c) Deliverables:

The stated deliverable was –

*A final report by 30 April (extended by variation to 31<sup>st</sup> May) 2016 on the results of the geotechnical investigations and comment on fatal flaws (if any()) and implications of the findings and recommendations on the next steps (e.g. detailed dam design, further investigations or not proceed)*

### d) Outputs

The stated outputs were to provide an enhanced understanding of:

- *The strength of foundation materials*
- *Abutment stability*
- *Permeability of foundation materials & presence of paleo channels*
- *Vulnerability of foundation materials to liquefaction*
- *Settlement potential of foundation materials*
- *Dispersity of foundation materials*
- *Groundwater regime, including the presence of artesian water pressures*
- *Potential for structural features such as faults, persistent zones of weakness, low angle jointing, bedding planes shears with low strength.*

### e) Principal Findings

On completion of the above, 2 reports were produced, namely a factual report, and an implications and recommendations report.

4. There were **no fatal flaws** for either scheme – this is probably the most important overall finding
5. Eleven boreholes were drilled, so the findings provide a representative sample of the subsurface conditions at 5 different locations; namely:
  - Wakamoekau dam site (3 holes)
  - Black Creek saddle site (1 hole)
  - Black Creek dam site (3 holes)
  - Landslide SW of Black Creek reservoir (1 hole)
  - Tividale dam site (3 holes)
6. **Overall**, the engineers considered findings as positive i.e. they came out better than anticipated based on their initial prefeasibility surface exposure findings.

Based on the information gathered from the general geotechnical findings, the initial observations are that:

5. **Tividale** is:
  - less porous than expected – a good characteristic for holding water (less cost)
  - being compacted sandstone (not greywacke) potentially makes it favourable for earthworks
6. **Black Creek (including Wakamoekau) is:**
  - primary comprised on fractured greywacke
  - even though this is variable it is sufficiently impermeable
  - greywacke rock contains a portion of laumontite which is likely to have design implications
  - because the greywacke is fractured makes it potentially favourable for earthworks (less cost)
7. The **saddle** (between Black Creek south & Wakamoekau) is:
  - comprised of sandstone which is easily excavated (less cost)
  - potentially makes it favourable for earthworks
8. **Landslide SW of Black Creek** is:
  - comprised of extremely weak sandstones, conglomerates and carbonaceous mudstones (coal measures) overlying greywacke rock at a considerable depth
  - the landslide is higher and distant relative to the reservoir and it is therefore “unlikely that reservoir seepage could exert a significant driving force on the landslide” (possibly more cost if a upstream blanketing is necessary)

#### f) Implications

The T&T investigations came up with 3 categories of findings:

- d) Favourable outcomes
- e) Risks & issues
- f) Uncertain

In terms of the later, 2 items fall within this category, namely the landslide SW of Black Creek and the suitability of the Black Creek scheme greywacke rock as bulk fill. The reason they are ‘uncertain’ is we have less understanding of them and/or require further investigation to understand them sufficiently. More specifically, based on the T&T report, the individual geotechnical sites can be summarised as follows with respect to cost implications:

4. **Tividale** site cost assessment summary
  - 6 items of no, unlikely or very minor change
  - 1 item possible cost increase
  - 1 item possible cost decrease
5. **Black Creek South** (including the landslide) site cost assessment summary
  - 5 items of no, unlikely or very minor change
  - 2 items possible cost increase
  - 1 item possible cost decrease
6. **Wakamoekau** site cost assessment summary
  - 5 items of no, unlikely or very minor change
  - 1 item possible cost increase

#### 7. **Saddle** site cost assessment summary

- 4 items of no, unlikely or very minor change
- 1 item possible cost increase

#### c) **Informing Stage 2 Feasibility investigations**

The above investigations did not include any re-elevation of the prefeasibility-derived capital costs; it only reviewed the general implications of the findings – a review of the actual costs was not part of the geotechnical drilling programme.

As a separate exercise leading into Stage 2, it is therefore planned that the opportunities and costs developed during the Prefeasibility phase be reviewed to the extent possible to establish how the additional knowledge gained from the drilling will better inform the capital costs.

In summary this will involve:

- Task 1: Initial teleconference with Lewis Tucker (so they are involved at the outset) and the project team (tentatively scheduled for 22 June 2016)
- Task 2: Updating construction cost estimates (most likely estimate and typical cost range) based on findings from Stage 1 Feasibility Geotechnical Investigations. A final report will be issued by 8<sup>th</sup> July.
- Task 4 (in parallel with Task 2): Updating construction cost estimates (most likely estimate and typical cost range) based on findings from Stage 1 Feasibility Geotechnical Investigations.

### 3. **Farmer Demand**

The following details the stated contractual obligations with respect to this element:

#### a) **Deliverables:**

The stated deliverable was –

*A preliminary report by 28 February 2016 on the findings from the case study farms and farmer interviews as to the interest of farmers in irrigation.*

#### b) **Outputs**

The main outputs are the 7 Farm Case Studies which have the following components:

- *A Farm Status Plan (for three Farm Case Studies) of each farm describing such characteristics as soils, climate, slope, infrastructure, and natural features.*
- *An analysis of the potential for land use change across a range of pre-determined land uses. In all cases the potential for multi-land use in any one property will be analysed. The analysis will include financial and management/lifestyle changes required.*
- *The financial analysis will be based on actual market conditions and supply chain capability rather than generic market prices.*
- *The environmental impact (through Nutrient Assessments) of the selected land uses will be undertaken.*
- *Interviews with farmers to gauge interest in the supply of a reliable water supply.*

## Principal Findings

The purpose of the case study evaluations was to ultimately provide farmers and land holders in the command area and beyond, with information on land uses that could be enabled with access to reliable water. The outputs of this process were provided earlier to IAF – they will continue to be an information source for farmers/prospective irrigators.

The land use assessments across the three properties are:

- Elm Grove – Dairy, mixed farming, apple orcharding.
- Easterbo – Livestock finishing, mixed farming, sheep dairy.
- Otahuaio – Mixed farming, sheep dairy.

All case studies focused on three aspects of land use change: the financial performance of the new land use and how its farm surplus compared to a dryland baseline; the nutrient loss impact of the land use change; and the lifestyle and management implications of the new land use.

In summary the land use case study findings were as follows:

v. Sheep Dairying

- At face value, a successful conversion to sheep dairying has the potential to deliver significant returns above the Baseline Dryland system. However this performance is conditional on achieving the assumed lambing percentages and milk yields per ewe.
- Conversion from current land use to a sheep dairy operation under irrigation carries risk. The lack of information and uncertainty surrounding the sheep dairy market in both New Zealand and offshore together with high capital costs of establishment (in excess of \$4 million) suggests caution is needed.
- While sheep dairying may not appeal to some farmers, those willing to take a higher risk and grow this emerging industry have the opportunity to be rewarded

vi. Mixed arable, specialist seeds and livestock finishing

- Conversion from current land use to a mixed operation under irrigation results in increased and reliable pasture and crop production. These conversions have the potential to produce more intensive and higher value farming systems.
- The greatest advantage of cash cropping is that it eliminates crop failures while increasing crop yields. Irrigation helps to establish annual grasses earlier, giving the farmer confidence to buy stock earlier in the autumn when prices are lower which leads to greater trading margins. Other benefits of this farming system include increases in total pasture production (+21 to +34%) and more animals traded, more reliable summer production, and varied trading opportunities
- It is difficult to make an investment in irrigation pay under this livestock finishing scenario. This is due to the additional pasture production during the period from late spring until early autumn, which is when lamb and beef prices fall from seasonal highs to seasonal lows.
- Easterbo's heavy soil types are limited for winter use when sheep and beef prices are rising (the opposite effect than described above), meaning it is not the most profitable enterprise. If the soil was free-draining, irrigation could be used in summer to maximise crop yields in winter, taking advantage of higher seasonal prices. In Canterbury, irrigated gravel soils growing high-yielding winter crops such as fodder beet are more profitable.

- In reality, a model of cropping through summer to take advantage of irrigation, followed by livestock trading from autumn through to spring would be a better land use for Easterbo.

vii. Dairying

- Converting Elm Grove to an irrigated dairy farm would result in a sustainable and repeatable pasture-based system that could be operated at or above the local average for milk production.
  - The Top 10% Operator model (medium-stocked) is likely to generate the best return. A relatively high level of skill and close monitoring would be needed to sustain performance.
  - An average efficient operator model (lower-stocked) is likely to generate the lowest gross return. It runs at a relatively low level of intensity, making it simpler to operate and most likely to repeat the physical performance year-on-year.
  - A Top 10% Operator model (high-stocked) is likely to generate the highest level of physical performance but mid-range economic results. Given the capital invested and the exposure to volatile milk prices, along with larger environmental impacts, this is the least-preferred scenario.
- A dairy conversion has the potential to generate a financial surplus before the cost of water and existing debt. However the milk price will impact this and it should be noted that this scenario assumes a price of \$6.40.

viii. Apple Orchard

- Conversion from current land use to an irrigated apple orchard offers a significant increase in effective farm surplus for both the Average Efficient Operator and a Top 10% Operator.
- This case study highlights that the conversion to apple production on Elm Grove is viable assuming the pre-requisite development capital can be secured. It will also require access to skilled orchard management and modern management systems.
- A positive operating surplus can be achieved by an apple orchard at the end of year 5 by an Average Efficient Operator and the end of year 4 by a Top 10% Operator.
- The success of the conversion to an apple orchard will also depend on other factors including the availability of suitable varieties and rootstock, access to modern infrastructure (a local fruit packing facility and post-harvest facilities), skilled management and a supply of seasonal labour.

Field Days on each of the 3 case study farms were held on 12, 14 and 20 April. Each Field Day attracted around 45 participants, comprised of dryland farmers, current irrigators and rural services representatives.

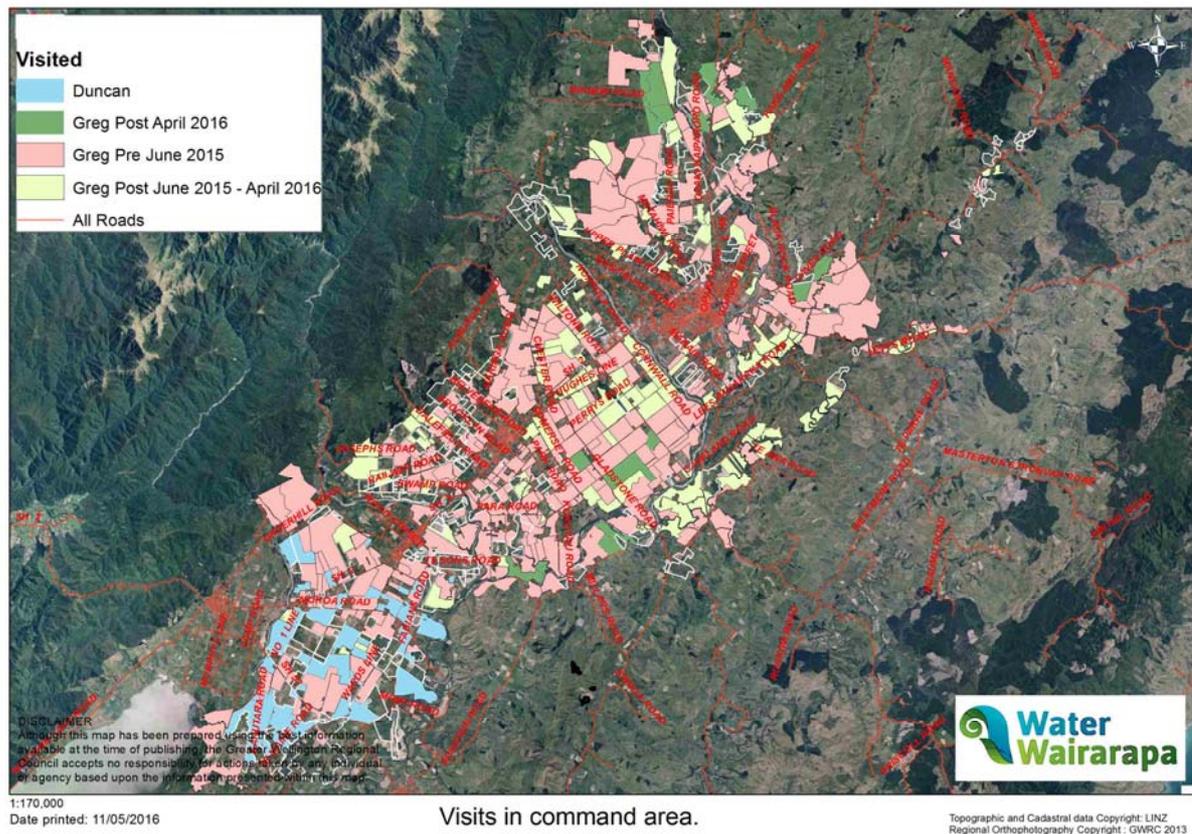
Fact sheet summaries were produced for each of the 8 land uses across the three case study farms, along with an information sheet on each farm and a project update. These were collated into folders and handed out to attendees at the Field Days. The case studies are also available on the project website.



**Figure 1: Presentation at Easterbo Field Day 20 April 2016**

One-on-one visits to farmers within the command area are continuing, with help from a part-time temporary contractor.

The map below indicates the farms/farmers visited in command area as of 31st May 2016.



**c) Informing Stage 2 Feasibility investigations**

The case studies were to determine the on-farm revenues generated by existing, not ‘new’, land uses under an irrigation regime. This included the time and costs involved with converting the

farm from its existing use to the proposed use but excluded the cost of water and interest on new debts.

The first full round of farmer interviews (i.e. once all farmers with the potential command area have had one-on-one interviews) is an ongoing task. Even though the information emanating from the case studies may be used in future financial modelling to help refine and/or supplement on-farm revenue estimates it will also form the basis of the understanding for the initial financial modelling work, which will ultimately develop water pricing scenarios. This will also provide more information on which to plan independent survey questions.

The case study 'fact sheets' will continued to be used during the Stage 2 investigations (farmer interviews) as a basis for discussions with farmers to demonstrate how irrigation could influence their future farm management decisions and in particular help guide their propensity to become a customer.

The ongoing farmer interviews not only establish a rapport with farmers but also will help in the development of metrics and reporting structures for farmer demand assessment as well as understanding existing farmer irrigator productivity/reliability.

As mentioned above, the farmer interviews supported by the case study information, will also help inform the independent survey which has been delayed until August/September. This will allow the findings from the current round of farmer interviews and financial modelling to inform the survey questions and format.

## Appendix 2

### Geotechnical and Engineering Support for Financial Modelling

1. Initial teleconference with LTC and the WW Team (tentatively scheduled for 22 June 2016) to cover the following:
  - a) T+T to communicate the scope and nature of our work to update construction cost estimates based on findings from the geotechnical investigations (Task 2 following), which will be in progress at the time of the teleconference.
  - b) LTC to communicate the scope and nature of their work to develop a financial model. The teleconference will also be an opportunity for LTC to ask any questions or request inputs needed from T+T for their financial model.
2. Updating construction cost estimates (most likely estimate and typical cost range) based on findings from Stage 1 Feasibility Geotechnical Investigations. This will involve the following:

Brief research and discussions regarding implications of laumontite to inform Tasks 2b and 2c following:

  - a) Revise design due to laumontite in greywacke where used as rockfill (two dams) (scope could vary depending on outcome from Task 2a).
  - b) Revise design due to laumontite in greywacke where used as armour (three dams) (scope could vary depending on outcome from Task 2a).
  - c) Incorporate an allowance for limited grouting (two dams).
  - d) Revise sub-excavation arrangements (four dams).
  - e) Revise seepage control strategy on the right abutment of the possible Black Creek South dam.
  - f) Incorporate design measures to address internal erosion risk for bulk fill for the possible Tividale dam.
  - g) Incorporate design measures to address internal erosion risk for the foundation at the possible Black Creek saddle dam and for the possible Tividale dam.
  - h) Develop a “reasonable” strategy to manage implications of the landslide for the possible Black Creek reservoir. This will be based on brief research and discussions, limited stability modelling, and a revised arrangement. The arrangement and cost allowance will depend on assumptions that will need to be tested further during future phases of investigation.
  - i) Review contingency and cost range given additional information obtained during the geotechnical investigations.
  - j) Prepare a draft report presenting updated construction cost estimates, contingency and cost ranges, to be provided to Bond Construction Management Ltd or similar (BCML), the WW Team and LTC for consideration. **Issue of the draft report scheduled for 1 July 2016.**
  - k) Liaise with BCML and WW Project Team to support their review of the draft report.
  - l) Finalise construction cost estimates, contingency and cost ranges and report following

m) comments by BCML and the WW Project Team. **Issue of the final report scheduled for 8 July 2016.**

3. Investigating wider opportunities for cost savings and risks for cost increases. Task 3 will be undertaken in parallel with Task 2. This will involve the following:
  - a) Update Table 4-1 of the Interim Update on Value Engineering Workshop Report (T+T September 2014), which presented the most significant opportunities and risks for scheme costs, to be circulated in advance of an opportunity/risk teleconference (refer Task 3b). The update will account for changes to Prefeasibility cost estimates subsequent to the Value Engineering Workshop, including revisions to incorporate the latest geotechnical findings. This will also briefly screen the full list of design assumptions to check that all assumptions with significant potential to change costs are included in the revised table, noting that we expect that these assumptions will generally already be included from the value-engineering process. The scale of potential cost savings / increase will be identified as likely to be minimal, moderate or substantial rather than identifying dollar values.
  - b) A teleconference with LTC, the WW Project Team, and possibly also Aqualinc Research Ltd to discuss wider opportunities and risks for cost changes for the possible schemes. The teleconference is yet to be scheduled, but LTC has advised that they will be able to comment on specific opportunities more readily once the first cut of their financial model has been built. The key outcome from the teleconference will be to identify and prioritise the most significant opportunities and risks and provide guidance on their potential to change cost estimates, which will be documented in the final report (refer Task 2m).



## **WW Governance Group**

DATE 23 June 2016  
AUTHOR Michael Bassett-Foss  
SUBJECT Item 7: Farmer Demand  
FILE NUMBER WWUP-7-368

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### **1. Introduction**

The purpose of this paper is to provide the Governance Group with an update on the farmer demand programme of work.

Previous updates about the farmer demand programme have described an intense period of farmer engagement after the release of the case study material, the field days being the initial step in this engagement. This was to have been followed by a survey of farmers to gain a better understanding of their interest in water. The survey was to have been initiated in June and be followed by a demand profiling exercise that would feed into financial modelling.

### **2. Revised farmer programme**

The survey of farmers has been delayed by several months to allow the first full round of farmer interviews to be completed and the initial financial modelling work to be undertaken, which will develop water pricing scenarios. This will provide more information on which to plan survey questions.

Project work surrounding farmer engagement over the next few months as part of Stage 2a will now therefore involve the following pieces of work, which are described further below.

- Finalise farmer database and information required from farmers in the future
- Completion of first round of farmer interviews
- Undertake initial financial modelling activity
- Develop metrics and reporting structures for farmer demand assessment
- Understand existing farmer irrigator productivity/reliability

### **3. Farmer database**

A database of farmer information gathered during initial interviews has already been developed. However, looking to future phases of the project, there is additional information that will be required by the project to assist its work with farmers. This additional information is being defined and the farmer database adjusted accordingly.

The additional information that has currently not been gathered from farmers will help shape future farmer survey and interview work.

### **4. Farmer interviews**

Farmer interviews have been underway in several iterations since 2012. These interviews started before the current schemes being investigated were known and hence involved farmers in an area far greater than the current command area.

Initial interviews focused on the larger and more accessible farms, and accordingly, never intended to interview all farmers.

Successive iterations of farmer interviews have filled gaps, interviewing farmers that had previously not been interviewed.

The focus of current one-on-one farmer interviews is to complete one-on-one meetings with as many farmers as practical in the command area. This will ensure that the information gathered from farmers is as representative of farmer feedback as possible. Obviously, there will still be some farmers that are not interested in meeting, can't be contacted, or own land holdings below 20ha in size, that will not be interviewed.

### **5. Financial modelling**

The financial modelling work has been discussed with Governance Group members during previous meetings. The initial iteration of financial modelling has begun. Given that key inputs to the model, such as commercial structure, investor mix and farmer demand are not known, various scenarios of inputs will be modelled. It is intended that the model be updated in the future as new information comes to hand.

Modelling various scenarios will help develop a view of the more appropriate commercial structures and potential price ranges for water. The findings from this work will assist inform farmers and survey/interview questions.

### **6. Farmer demand assessment**

As the project moves forward, it will be important to measure farmer demand and how this changes during future iterations of farmer engagement.

This will assist in understanding the stage that farmers are at in the engagement process and their propensity to invest in water.

## **7. Irrigator reliability/productivity**

Recent droughts and changes to existing irrigation consents have highlighted water reliability gaps for some irrigators. It is possible to calculate the lost productivity that has resulted from restricted irrigator water takes.

Historical farm data is available that shows the difference in pasture growth rates. Using this data it is possible to illustrate the extra yield and certainty that irrigation provides.

It is also possible to illustrate the reduced reliability and productivity faced by irrigators that faced water restrictions over the last summer. This will help the project, key stakeholders and farmers with their respective assessments.

## **8. Recommendation**

*That the WW Governance Group:*

- 1. Receives the report.*
- 2. Notes the contents.*

Report prepared by:

**Michael Bassett-Foss**  
Project Director



## WW Governance Group

DATE 23 June 2016  
AUTHOR Lisa Sims  
SUBJECT Item 8: Comms and engagement update  
FILE NUMBER WWUP-7-370

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### 1. Landowner engagement

Landowners in and around the proposed storage site areas received a letter in May, updating them on progress with the recent drilling programme. They will be contacted again when results from the work are available.

### 2. Website

The new Water Wairarapa website went live on 13 June. The previous site had been in place since 2011 and was due for an upgrade to become more user friendly and to reflect the new stage of the project.

### 3. Irrigation NZ magazine

Water Wairarapa and GWRC's Catchment and Environment Groups are part of an initiative that provides the *IrrigationNZ News* quarterly magazine to consent holders throughout Greater Wellington, Bay of Plenty, Hawkes Bay, Canterbury and Otago regions. In Wairarapa, the publication will also be sent to landowners in the proposed water supply area. The initiative allows GWRC to include four regional pages in the usual INZ magazine

The aim is to engage, inform and shift irrigation management practice on-farm beyond what has been achieved to date individually as either GWRC or INZ. The magazine provides a new and positive tool for the region to lift knowledge and capability and encourage change. Material for the first magazine is complete and is attached. Extra copies will be available.

### 4. GWRC tour of Wairarapa

GWRC Councillors, some WREDA staff and GWRC representatives took part in a field trip on Monday 13 June to visit a range of water users and understand some of the on-the-ground needs, opportunities and challenges.

At the first stop, Taratahi Agricultural Training Centre talked about the importance of planning ahead to secure potential economic growth with a skilled labour force. Vern Brasell, WW SAG member and environmental award-winning dairy farmer, spoke about his business, Kaiwawai Dairies, and how it manages water and nutrients including its constructed wetland that has been working to absorb nutrients from the farm system.

At the Maungahina Stud Farm, the McKenzie family talked about their history, benefits of water to their operation and how they see irrigation benefitting in future. At Henley Lake John Booth discussed the positive impacts of water storage on community infrastructure. At the final stop, Moiki Farm, irrigator and crop and specialist seed farmer Richard Kershaw discussed his vision of what could be grown in the Wairarapa if reliable water was available.

## **5. Media coverage**

Media coverage since early May is *attached*.

## **6. Recommendation**

*That the WW Governance Group:*

- 1. Receives the report.*
- 2. Notes the contents.*

Report prepared by:

**Lisa Sims**  
Communications and Stakeholder Engagement