



**ORDINARY MEETING OF THE  
WATER RACE SUB-COMMITTEE  
TO BE HELD IN THE  
EXECUTIVE MEETING ROOM  
ON MONDAY 14 MAY 2018  
COMMENCING AT 1.30PM**

If you are unable to attend the meeting please advise the Secretary  
[maree.pycroft@selwyn.govt.nz](mailto:maree.pycroft@selwyn.govt.nz) or phone (03) 347-2891

**AGENDA**  
**OF THE ORDINARY MEETING OF THE**  
**WATER RACE SUB-COMMITTEE**  
**EXECUTIVE MEETING ROOM**  
**ON MONDAY 14 MAY 2018 – 1.30pm**

**Committee Members in Attendance**

1. Nigel Barnett (Chairman)
2. Cr Pat McEvedy
3. Cr Craig Watson
4. Mike Chaffey (Ellesmere)
5. Harry Schat (Ellesmere)
6. John Clarkson (Malvern)
7. John Shanks (Paparua)
8. Martin Le Comte (Paparua Water Race Irrigation User Group)
9. Tim Morris (Paparua)
10. Clayton Fairbairn
11. Mike Mora (Christchurch City Council - representing Waimairi and Wigram Wards)
12. Kerry Pauling (Malvern Community Board representative)

**In Attendance**

13. Murray England, Strategic Manager Water Services
14. James Skurupey, Surface Water Engineer
15. Daniel Meehan, Surface Water Operations Engineer
16. Maree Pycroft, Secretary
17. Creagh Robinson, Accountant

**1. APOLOGIES**

**2. PUBLIC FORUM**

**3. MATTERS ARISING**

**3.1 PUBLIC FORUM**

**Mandy Burrows**

Staff have responded to Ms Burrows. A copy of the original response to her submission was provided to her.

**Mr Doug Gough**

Ongoing

**Mrs Somerton-Smyth**

This matter is with the Corporate Services Team. No further action required from this Subcommittee.

### **3.2 Sheffield Rural Fire**

The Asset Manager Water Services has made initial contact with Dave Berry the Area Commander of Canterbury. Water supply for firefighting in the area will generally be in the form of water tankers, dipping buckets and irrigation scheme take off points.

### **3.3 Canterbury Aoraki Conservation Board letter**

The Asset Manager Water Services has made contact with the board. The board has made a submission through the 2018-2028 LTP consultation process. The letter forms the basis of the submission.

## **4. CONFIRMATION OF MINUTES FROM THE MEETING HELD 26 FEBRUARY 2018**

## **5. CORRESPONDENCE**

## **6. FINANCIAL**

### **6.1 Finance Report to 31 March 2018** (Creagh Robinson, Finance Manager)

### **6.2 Unplanned Expenditure over \$5,000 [Report attached]**

## **7. WATER SERVICES REPORT**

### **7.1 Fish Screen Project Update [Report attached]**

### **7.2 Water Race Cleaning Review**

Council are working through digitising the cleaning sheets so we can work with the contractor and improve efficiency of the cleaning program.

### **7.3 Strategic Water Races - Ecological and Aesthetics**

The Asset Manager Water Services presented the 'working draft' of the 'Strategic Water Races - Ecological and Aesthetics' map to both the Christchurch West Melton and the Selwyn Waihora Zone committees. Both committees are likely to make comment through the 2018-2028 LTP consultation process (potentially through Environment Canterbury).

### **7.4 Water Race Bylaw**

The bylaw has been through public consultation and Hearing deliberations. The proposed amended bylaw will be presented to Council for adoption 9 May 2018. A verbal update will be provided to the committee.

### **7.5 Moratorium on Lower Ellesmere Water Race Closures**

The Asset Manager Water Services will talk to this item. The Department of Conservation has submitted against the closure of a number of lower Ellesmere water races. The attached plan highlights three water races which are proposed for closure but have been identified as requiring further ecological investigation. It is proposed that the Committee consider a moratorium on race closure within the Lower Ellesmere Water Race scheme until further work is completed to confirm critical races.

- 7.6 Proposed Water Race Closure To Proceed to Public Consultation [Report attached]**
- 7.7 Proposed Water Race Closure Approval – Post Public Consultation [Report attached]**

## **8. HEALTH & SAFETY REPORT**

The following are key health and safety issues regarding the Council Water Race to report:

1. Site access for water race maintenance has been restricted by 5 farms due to perceived concerns over the spread of Mycoplasma Bovis. Council contractors will follow relevant Biosecurity Protocols.
2. SICON has provided cost estimates for all P2 Health and Safety Sites which are currently being reviewed.

## **9. GENERAL BUSINESS**

### **9.3 Next Meeting**

9 July 2018



**MINUTES**  
**OF THE ORDINARY MEETING OF THE**  
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**In Attendance**

12. Murray England, Strategic Manager Water Services
13. James Skurupey, Surface Water Engineer
14. Daniel Meehan, Surface Water Operations Engineer
15. Maree Pycroft, Secretary
16. Creagh Robinson, Accountant

**1. APOLOGIES**

Cr Craig Watson

**Moved – Pat McEvedy / Seconded – Harry Schat**

*“That the apology be noted.”*

**CARRIED**

**2. PUBLIC FORUM**

Mr Michael Schat, Ardlui Road, Dunsandel

Mr Schat questioned why Council had not addressed the poor performance of the water race and overall inefficiency of the system. He raised the following issues:

- Only sections are cleaned at a time rather than the whole race
- The race continually blocks and overflows from weeds and debris
- The races are expensive to maintain by both Council and residents
- The rating method is unfair for large dairy farms who are unable to use them

Operational staff will be instructed to review the cleaning programme.

#### Ms Mandy Burrows – North Rakaia Road

Ms Burrows spoke at the Annual Plan hearing for the closure of the Upper Ellesmere water race and expressed disappointment she had not received feedback on her submission.

She expressed her support of Michael Schat's verbal submission and made the following points in support of the Upper Ellesmere closure:

- Dairy farmers are unable to use water races for dairy herds as they need to control what cows drink
- Dairy farmers still have to fence, clean and pay rates for water races that run through their properties regardless of not using them
- Ms Burrows expressed the belief that water races are an inefficient, outdated water carrier and irrigation method and does not see the water races delivering any value
- There has been substantial cost on re-routing races to achieve efficient irrigation, installing bridges and fencing
- Council need to provide an alternative source for the minority of people using the system
- Minor races go into soak hole
- The neighbour's land holding is 50 ha, leased to another person who does not use the water race
- Ms Burrows stated there was no danger of fire as the land is green from being irrigated and every dairy farm has hydrants

Council will follow up Ms Burrow's original submission and apologised that she had not received a response.

The Subcommittee noted the reasons to close the water race and are sympathetic. Council has legal obligations with a third party meaning that the closure of the whole Upper Ellesmere scheme is not currently possible.

#### Mr Doug Gough, Coal Track Road

Mr Gough spoke in support of his application to shift the water race running through his property.

- All properties on this race have independent water supply
- The end of the race is always dry
- CPW can provide pressurised water during the peak irrigation season
- All property owners have signed the closure application apart from Mr Michael Fraser Milne
- It is possible to supply this property from another source
- Mr Milne has requested the following requirements:
  1. Water source to fight fires
  2. Maintain the ecological system
  3. Confirmation that CPW can supply water to his property

#### Mrs Somerton-Smyth – Paparua School Road – rates and closing race

- Mrs Somerton-Smyth questioned the water race rating formula and the 70% increase in 2013/14 charged for the entire property
- She is paying the old rate which has accumulated debt until it is resolved
- Her neighbour has a small pond supplied by a water race in a small corner of his 360 acres
- Mrs Somerton-Smyth has her own water supply and does not need the water race.

The Subcommittee asked management to investigate and communicate the findings.

The Sub Committee advised Mrs Somerton-Smyth to initiate a formal closure application process.

Ratepayers out of the District will be reviewed in the annual plan.

### **3. CONFIRMATION OF MINUTES**

**Moved – Harry Schat / Seconded – Mike Mora**

*“That the Selwyn District Council Water Race Sub-Committee confirm the minutes of the Ordinary Meeting held on Monday, 11 December 2017 as a true and accurate record.”*

**CARRIED**

### **4. CORRESPONDENCE**

A letter from Canterbury Aoraki Conservation Board dated 14 November 2017 expressing their concern about the ongoing closure of water races in the Selwyn District was noted. The Board is an advisory body for the Department of Conservation. The Water Race Subcommittee welcome their interest and encourage their input into the future strategy of the water races in Selwyn District.

The meeting debated various options to fund water races including adding a general good rate through ECAN to preserve the ecological value and the pros and cons of a per ha charge and the financial implications of the options. A revised rating structure forms part of the Councils LTP consultation.

### **5. MATTERS ARISING**

#### **5.1 Sheffield Rural Fire Meeting**

Murray England attended a meeting of the Sheffield Rural Fire meeting to discuss their enquiries about future firefighting water provision. With more discussion about water race closures the CPW network is being used a lot more. Council does not have an obligation to provide water to FENZ.

**The Water Race Sub Committee asked management to obtain advice on what provision FENZ have made for firefighting and report back to the meeting.**

#### **5.2 Historic Water Race Heritage**

Cr Craig Watson asked through Murray England in his absence, to raise the matter of historic water race sites for the District Plan. The Water Race Sub Committee does not have the authority to consider whether the asset be defined as a historic heritage place.

Historic heritage places such as a structure, road, site or in this instance water race are defined as significance to people on account of historical, physical and cultural values. Water races could be considered a place with a ‘story’ (the heritage values) about the interaction of people with the water races.

## **6. FINANCIAL**

### **6.1 Finance Report to 31 December 2017**

Creagh Robinson provided an overview of the financial operating position of all water race schemes for the period ended 31 December 2017.

The projected deficit of combined water races is break even for 2017/18.

The LTP proposes a standard rate of \$17/ha compared to the current ratings of Malvern \$23.46/ha, Ellesmere \$16.16/ha and Paparua \$16.51/ha

#### **Moved Martin Le Comte / Seconded Cr Pat McEvedy**

*“That the financial report to 31 December 2017 be received for information”.*

**CARRIED**

### **6.2 Items of Unplanned Expenditure over \$5,000** (Daniel Meehan, Surface Water Operations Engineer)

#### **Moved Mike More / Seconded Kerry Pauling**

*“That the Water Race Sub-Committee receives the Unplanned Expenditure Report”.*

**CARRIED**

## **7. WATER SERVICES REPORT**

### **7.1 Water Race Maintenance Contract**

Cr Pat McEvedy declared a conflict of interest as a SICON Director.

John Shanks asked management to explain the increase in water race maintenance costs from 2011 to 2017.

Gareth Morgan, Service Delivery Manager advised comparing SICONs costs from 2011 to 2017 is not balanced as many things changed including the contract methodology. Mr Morgan went on to explain the increase in maintenance over the past few years is a result of higher levels of service delivery which is now detailed in the maintenance contract, quality and health and safety practise imposed as a result of the revised Health & Safety Act.

It was noted Council approved the appointment of SICON as the Water Services Network Management Contractor by negotiation not tender.

### **7.2 Water Race Bylaw**

It was noted that the revised Water Race Bylaw was adopted by Council for consultation on 14 February. Consultation runs from the 21 February to the 21 March 2018. A copy of the Statement of Proposal and revised Bylaw can be found on the Council webpage.

### **7.3 Strategic Water Races – Ecological and Aesthetics**

The map tabled identifies priority 1 and priority 2 water races which should remain open to provide ecological and/or aesthetic benefits. Priority 1 races will have a high threshold for

closure than priority 2 races. The races were identified through a number of sources including the 2011 EOS Ecology report, Map of the County of Selwyn 1883 and written submissions to the Water Race Strategy workshop meeting. The Asset Manager Water Services led the committee through the map logic and answered questions.

It was proposed that the subcommittee adopt the plan as a working draft and that the Asset Manager Water Services present the working draft to the Christchurch, West Melton and the Selwyn Waihora Zone Committee Meetings for further feedback and development.

### **Moved Clayton Fairbairn / Seconded Kerry Pauling**

**That the Water Race Subcommittee adopt a working draft for consultation.**

**Carried**

#### **7.4 Fish Screen Project Update**

- Upper Kowai Fish Screen been operational for 1 year.
- Lower Rakaia Practical Completion Awarded
- Waimak (Skurrs) Practical Completion Awarded – Bypass not connection due to concerns over use of Spring Channel to be resolved with onsite meeting with Ecan.
- Glentunnel – Screens installed and work to finish site is progressing well practical completion due by end of Feb

#### **8. HEALTH & SAFETY REPORT**

All the quoted Priority 1 sites have been installed. All Priority 2 and 3 are current being priced. Options for Kowai Air Shaft are currently being investigated.

#### **9. GENERAL BUSINESS**

##### **9.1 Hororata Charitable Trust Bus Tour**

This historical tour has been organised around the district on 11 March at \$45 per head. Further information is available on the Hororata Charitable Trust website.

##### **9.2 Fish Screen at Hole 13, Hororata Golf Club**

- The flood event in February significantly jeopardised the site.
- Awaiting recommendations from the Council's Insurance Consultants.
- Due to the safety of the site, responsibility was handed back to Council.
- Council is discussing redesign with Jacobs.
- River works need to occur including willow removal encroaching the site.

##### **9.3 Next Meeting**

14 May 2018

Meeting closed 4.07pm

## **PUBLIC REPORT**

**TO:** Chief Executive

**FOR:** Ellesmere, Malvern and Paparua water race scheme  
Sub-Committee – 14 May 2018

**FROM:** Management Accountant

**DATE:** 23 April 2018

**SUBJECT:** **Water Race Financial Report to 31 March 2018**

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### **1. RECOMMENDATION**

**That the financial report for Ellesmere, Malvern and Paparua water race scheme to 31 March 2018 be received for information.**

### **2. PURPOSE**

That the financial report to 31 March 2018 be received for information.

### **3. SIGNIFICANCE ASSESSMENT/COMPLIANCE STATEMENT**

Not applicable.

### **4. HISTORY/BACKGROUND**

Attached is the financial report for Ellesmere, Malvern and Paparua water race scheme to 31 March 2018

The accounts represent the financial operating position of the Ellesmere, Malvern and Paparua water race schemes for the period ended 31 March 2018.

## COMMENTARY

A Summary of the accounts as at the 31 March 2018 follows.

### Ellesmere Water Race Operational Position Summary

Revenue	YTD Actual \$	YTD Budget \$	Variance	2016/2017 Actual
Targeted Rate	330,065	337,482	(7,417)	391,420
Ellesmere Unit charge	9,223	9,270	(47)	11,236
Irrigation Charges	53,932	55,000	(1,068)	110,000
<b>Total Revenue</b>	<b>393,220</b>	<b>401,752</b>	<b>(8,532)</b>	<b>512,656</b>
<b>Expenditure</b>				
Total Operational Expenditure	367,882	428,914	61,032	493,565
Total Support	73,350	73,350	0	92,236
Total Operational Projects	1,359	19,017	17,658	119
Total Renewals	3,738	82,500	78,762	0
<b>Total Expenditure</b>	<b>446,329</b>	<b>603,781</b>	<b>157,452</b>	<b>585,920</b>
<b>Operating Surplus/(Deficit)</b>	<b>(53,109)</b>	<b>(202,029)</b>	<b>148,920</b>	<b>(73,264)</b>

### Operating Position Summary

	YTD Actual \$	YTD Budget \$	Variance
<b>Opening Account Balance</b>	<b>230,187</b>	<b>210,187</b>	<b>20,000</b>
<b>Plus</b> Operating Surplus/(Deficit)	<b>(53,109)</b>	<b>(202,029)</b>	148,920
<b>Plus</b> Prior year Projects Carried Forward	0	20,000	<b>(20,000)</b>
<b>Less</b> Capital Projects	<b>(431,100)</b>	<b>(504,200)</b>	73,100
Net Reserves Transfers	3,738	82,500	<b>(78,762)</b>
<b>Closing Account Balance</b>	<b>(250,284)</b>	<b>(393,542)</b>	<b>143,258</b>

### Special Funds Account - Renewals

	YTD Actual \$	YTD Budget \$	Variance
<b>Opening Account Balance</b>	<b>86,014</b>	<b>86,014</b>	<b>0</b>
<b>Plus</b> Transfers in	0	0	0
<b>Plus</b> Interest	0	0	0
<b>Less</b> Funding of Renewals	<b>(3,738)</b>	<b>(82,500)</b>	78,762
<b>Closing Account Balance</b>	<b>82,276</b>	<b>3,514</b>	<b>78,762</b>

### Year to Date Commentary

Operations to the 31 March 2018 resulted in a net operating deficit of (\$50,109) against a budgeted deficit for the same period of (\$202,029).

### Revenue

Total revenue to the 31 March 2018 is marginally unfavourable to budget by (\$8,532).

### Operational Expenditure

Operating expenditure to the 31 March 2018 is favourable to budget by \$61,032. The majority of costs are favourable to budget, in particular maintenance, CPW Ltd transition and infrastructure agreement costs of which the favourable variance totals \$55,508.

Project expenditure to the 31 March 2018 totals \$1,359 against a budget of \$19,017. Expenditure to date has been on Upper Ellesmere water race closure. Projects yet to incur costs are Health and Safety Improvements – full year budget \$20,000 and Consent renewals – full year budget \$5,346.

Renewal expenditure is favourable to budget by \$78,762. Renewals are funded from reserves at year end and do not have an impact on the operating result.

### Capital Projects

Capital expenditure to the 31 March 2018 totals \$431,100 against a full year budget of \$504,200. The expenditure relates to the fish screens on the lower Kowhai and is unfavourable to budget by (\$56,900). Capital projects yet to incur costs are Health and Safety Improvements – full year budget \$50,000, Emergency Tipout for Irrigators - \$35,000 and Terricelee Auto Gate – SCADA with a full year budget of \$45,000.



**Malvern Area Water Race  
Operational Position  
Summary**

Revenue	2017 / 2018 YTD Actual	2017 / 2018 YTD Budget	Variance \$	2016/17 Actual
Targeted Rate	642,317	644,022	(1,705)	715,067
Urban Public Good	17,614	17,802	(188)	19,263
General Receipts	1,013	0	1,013	14,522
Malvern irrigation	0	0	0	43,399
<b>Total Revenue</b>	<b>660,944</b>	<b>661,824</b>	<b>(880)</b>	<b>792,251</b>
<b>Expenditure</b>				
Total Operational Expenditure	548,224	596,313	48,089	720,227
Total Support	83,002	82,998	(4)	104,372
Total Operational Projects	21,421	22,770	1,349	51,492
Total Renewals	25,801	127,500	101,699	33,973
<b>Total Expenditure</b>	<b>678,448</b>	<b>829,581</b>	<b>151,133</b>	<b>910,064</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$(17,504)</b>	<b>\$(167,757)</b>	<b>\$150,253</b>	<b>(117,813)</b>

**Operating Position Summary**

	2017 / 2018 YTD Actual	2017 / 2018 YTD Budget	Variance \$
<b>Opening Account Balance</b>	<b>(1,070,286)</b>	<b>(1,889,794)</b>	<b>819,508</b>
<b>Plus</b> Operating Surplus/(Deficit)	(17,504)	(167,757)	150,253
<b>Plus</b> Prior year Projects Carried Forward	0	819,508	(819,508)
<b>Less</b> Capital Projects	(1,140,326)	(822,976)	(317,350)
Net Reserves Transfers	25,801	127,500	(101,699)
<b>Closing Account Balance</b>	<b>(\$2,202,315)</b>	<b>(\$1,933,519)</b>	<b>(268,796)</b>

**Special Funds Account - Renewals**

	2017 / 2018 YTD Actual	2017 / 2018 YTD Budget	Variance \$
<b>Opening Account Balance</b>	<b>378,081</b>	<b>378,081</b>	<b>0</b>
<b>Plus</b> Transfers in	0	0	0
<b>Plus</b> Interest			0
<b>Less</b> Funding of Renewals	(25,801)	(127,500)	101,699
<b>Closing Account Balance</b>	<b>\$352,280</b>	<b>\$250,581</b>	<b>101,699</b>

### Year to Date Commentary

Operations to the 31 March 2018 have resulted in an operating deficit of (\$17,504) against a budgeted deficit of (\$167,757).

### Revenue

Total revenue to the 31 March 2018 is marginally unfavourable to budget by (\$880).

### Operational Expenditure

Operating expenditure to the 31 March 2018 is favourable to budget by \$48,089 due to Maintenance, ECan monitoring and Urban Enhancement costs being favourable to budget by a total of \$51,258. This has been partially offset by insurance costs being unfavourable to budget by (\$4,514).

Project expenditure to the 31 March 2018 totals \$21,421 against a budget of \$22,770. Health and Safety Improvements are unfavourable to budget by (\$6,353), CPW Transition costs are favourable to budget by \$3,688. Consent renewals – full year budget \$5,346, has yet to incur costs.

Renewal expenses are favourable to budget by \$101,699. Renewal costs are funded from the renewal reserve at year end and do not have an impact on the operating result.

### Capital Projects

Capital Projects expenditure to the 31 March 2018 is unfavourable to budget by (\$317,350). The replacement of fish screens at the Upper Kowai, Waimakariri and Glentunnel Intakes account for (\$334,149) of this amount. The full year budget for these projects is \$613,395 and is funded from rates. A capital project not yet incurring costs is Health and Safety Upgrades (full year budget \$50,000).

**Paparua Water Race  
Operational Position  
Summary**

Revenue	YTD Actual \$	YTD Budget \$	Variance \$	2016/2017 Actual
Targeted Rate	374,037	384,147	(10,110)	414,530
Public Good Rate	44,396	44,307	89	48,985
Urban Public Good	106,268	105,642	626	109,871
CCC Share-Public Good	71,696	35,848	35,848	71,696
Irrigation Right Application	0	0	0	0
General Receipts	0	0	0	780
Dawsons Rd Water Race Upgrade	0	0	0	0
Irrigation Charges	181,956	170,000	11,956	167,107
Irrigation Rebate	24,592	(30,000)	54,592	(48,961)
<b>Total Revenue</b>	<b>802,945</b>	<b>709,944</b>	<b>93,001</b>	<b>764,008</b>
<b>Expenditure</b>				
Total Operational Expenditure	621,457	618,653	(2,804)	823,112
Total Support	36,675	36,675	0	46,118
Total Operational Projects	0	18,117	18,117	2,998
Total Renewal Expenditure	0	60,000	60,000	
<b>Total Expenditure</b>	<b>658,132</b>	<b>733,445</b>	<b>75,313</b>	<b>872,228</b>
<b>Operating Surplus/(Deficit)</b>	<b>144,813</b>	<b>(23,501)</b>	<b>168,314</b>	<b>(108,220)</b>

**Operating Position Summary**

	Actual \$	YTD Budget \$	Variance \$
<b>Opening Account Balance</b>	<b>(386,067)</b>	<b>(404,869)</b>	<b>18,802</b>
<b>Plus</b> Operating Surplus/(Deficit)	144,813	(23,501)	168,314
<b>Plus</b> Prior year Projects Carried Forward	0	18,800	(18,800)
<b>Less</b> Capital Projects	0	(65,000)	65,000
Net Reserves Transfers	0	60,000	(60,000)
<b>Closing Account Balance</b>	<b>(241,254)</b>	<b>(414,570)</b>	<b>173,316</b>

**Special Funds Account - Renewals**

	YTD Actual \$	YTD Budget \$	Variance
<b>Opening Account Balance</b>	<b>302,402</b>	<b>302,402</b>	<b>0</b>
<b>Plus</b> Transfers in			0
<b>Plus</b> Interest	0	0	0
<b>Less</b> Funding of Renewals	0	(60,000)	60,000
<b>Closing Account Balance</b>	<b>\$302,402</b>	<b>\$242,402</b>	<b>\$60,000</b>

### Year to Date Commentary

Operations to the 31 March 2018 resulted in an operating surplus of \$144,813 against a budgeted deficit, for the same period, of (\$23,501).

### Revenue

Total revenue to the 31 March 2018 is favourable to budget by a total of \$93,001. This variance is due to the irrigation rebate for 2016/2017, being accrued at year end as \$41,776.79. The actual rebate was \$17,238.16 providing further revenue to the scheme in excess of budget by \$54,539. Current year irrigation charges are also favourable to budget by \$11,956.

### Operational Expenditure

Operating expenditure to the 31 March 2018 is unfavourable to budget by (\$2,804). Maintenance and insurance costs are unfavourable to budget by (\$19,603) which has been partially offset by urban enhancement, consultancy and ECan costs being favourable to budget by \$16,618.

### Projects

There has been no project expenditure to date.

### Renewals

There has been no renewal expenditure to date.

### Capital Projects

There has been no capital project expenditure as at the 31 March 2018.

## **5. PROPOSAL**

That the interim financial report to 31 March 2018 be received for information.

## **6. OPTIONS**

Not applicable.

## **7. VIEWS OF THOSE AFFECTED/CONSULTATION**

### **a) Views of those affected**

Not applicable.

### **b) Consultation**

Not applicable.

### **c) Maori implications**

Not applicable.

**8. RELEVANT POLICY/PLANS**

Not applicable.

**9. COMMUNITY OUTCOMES**

Not applicable.

**10. NEGATIVE IMPACTS**

Not applicable.

**11. LEGAL IMPLICATIONS**

Not applicable.

**12. FUNDING IMPLICATIONS**

Not applicable.

**13. HAS THE INPUT/IMPACT FROM/ON OTHER DEPARTMENTS BEEN CONSIDERED?**

Assets Department has been consulted in preparation of this report.

Creagh Robinson  
**MANAGEMENT ACCOUNTANT**

**ENDORSED FOR AGENDA**

Greg Bell  
**MANAGER CORPORATE SERVICES**





Financial Month is set to 03/18 and Budget AB01 is in use.

ELLESMERE WATER RACE OPER.

March 2018

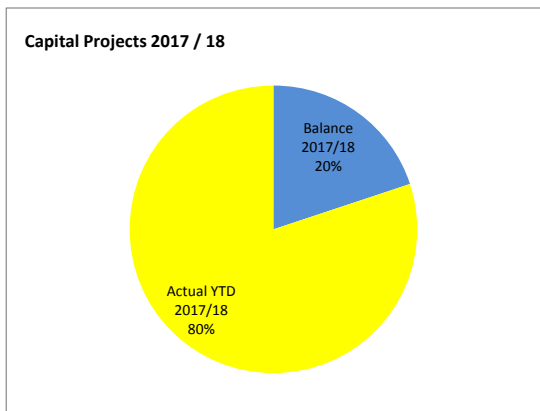
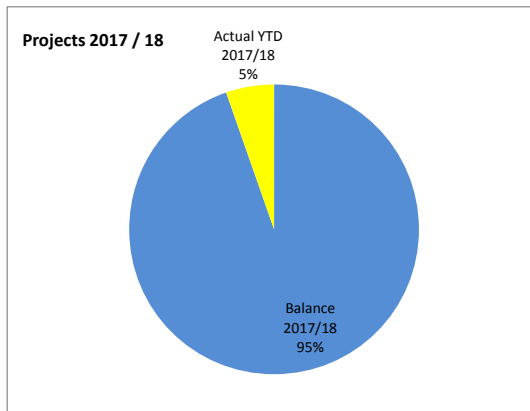
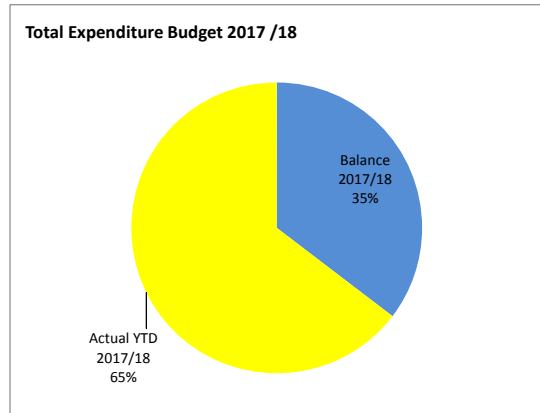
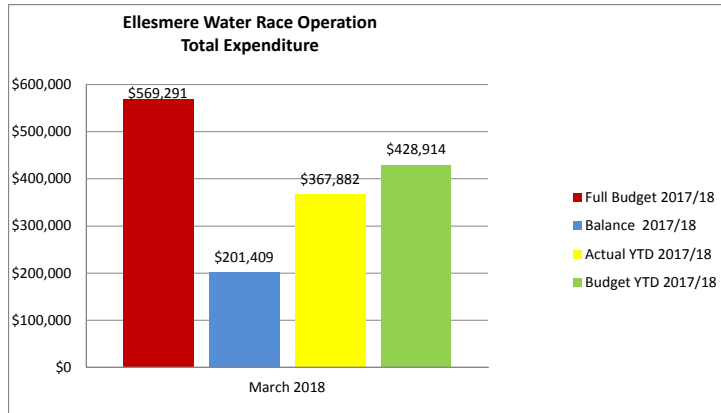


Statement of Operations

Account	Detail	Month Actual	Month Budget	Month Variance	YTD Actual 2017/18	Ytd Budget 2017/18	Ytd Variance	Committed Expenditure	FYR Budget 2017/18	Last Year 2016/17
<b>Opening Balance</b>										
3921 980 01	Ellesmere W/Rc Oper Open Blnce	-	-	-	\$230,187	\$210,187	\$20,000	-	\$210,187	\$442,379
	<b>Total Opening Balance</b>	-	-	-	<b>\$230,187</b>	<b>\$210,187</b>	<b>\$20,000</b>	-	<b>\$210,187</b>	<b>\$442,379</b>
<b>Income</b>										
3921 101	Targeted Rate	\$36,982	\$37,498	(\$516)	\$330,065	\$337,482	(\$7,417)	-	\$449,980	\$391,420
3921 101 01	Ellesmere Unit charge	\$1,029	\$1,030	(\$1)	\$9,223	\$9,270	(\$47)	-	\$12,359	\$11,236
3921 187	Irrigation charges	-	-	-	\$53,932	\$55,000	(\$1,068)	-	\$110,000	\$36,241
	<b>Total Income</b>	<b>\$38,011</b>	<b>\$38,528</b>	<b>(\$517)</b>	<b>\$393,220</b>	<b>\$401,752</b>	<b>(\$8,532)</b>	-	<b>\$572,339</b>	<b>\$438,897</b>
<b>Expenditure</b>										
3921 410 01	External Consultants Fee	-	\$223	\$223	-	\$2,007	\$2,007	-	\$2,673	\$5,438
3921 541	Insurance	-	-	-	\$8,997	\$7,789	(\$1,208)	-	\$7,789	\$7,418
3921 583 101	Maint - General S	\$30,053	\$30,053	-	\$270,481	\$270,477	(\$4)	-	\$360,641	\$361,982
3921 583 102	Maint - General R	\$3,405	\$7,582	\$4,177	\$46,125	\$68,238	\$22,113	\$8	\$90,988	\$62,465
3921 583 282	Maint - Removal R	-	\$1,667	\$1,667	-	\$15,003	\$15,003	-	\$20,000	-
3921 583 602	Maint - Source/Well/Headwork R	-	-	-	\$111	-	(\$111)	-	-	\$138
3921 593 03	Infrastructure Agreement Fee	-	-	-	\$41,493	\$48,750	\$7,257	-	\$65,000	\$44,701
3921 598 02	CPW transition	-	\$1,250	\$1,250	-	\$11,250	\$11,250	-	\$15,000	\$8,024
3921 868	ECan/Los Monitoring	-	\$500	\$500	\$293	\$4,500	\$4,207	-	\$6,000	\$2,518
3921 868 01	SCADA Costs	\$8	\$100	\$92	\$382	\$900	\$518	-	\$1,200	\$881
	<b>Total Expenditure</b>	<b>\$33,466</b>	<b>\$41,375</b>	<b>\$7,909</b>	<b>\$367,882</b>	<b>\$428,914</b>	<b>\$61,032</b>	<b>\$8</b>	<b>\$569,291</b>	<b>\$493,565</b>
<b>Support</b>										
3921 890 3900	Support Charges-WTR RACE	\$8,150	\$8,150	-	\$73,350	\$73,350	-	-	\$97,800	\$92,236
<b>Projects</b>										
3921 061	Renewal of consents	-	\$446	\$446	-	\$4,014	\$4,014	-	\$5,346	-
3921 062	Health and Safety improvements	-	\$1,667	\$1,667	-	\$15,003	\$15,003	-	\$20,000	\$119
3921 063	Upper Ellesmere Water Race Closure	-	-	-	\$1,359	-	(\$1,359)	\$8,641	-	-
	<b>Total Projects</b>	-	<b>\$2,113</b>	<b>\$2,113</b>	<b>\$1,359</b>	<b>\$19,017</b>	<b>\$17,658</b>	<b>\$8,641</b>	<b>\$25,346</b>	<b>\$119</b>
<b>Transfers - Operations</b>										
3921 970 01	Transfer (to)/from Reserves	-	-	-	-	-	-	-	(\$23,170)	(\$53,948)
3921 970 99	Carry Forward Projects	-	-	-	-	\$20,000	\$20,000	-	\$20,000	-
	<b>Total Transfers - Operations</b>	-	-	-	-	<b>\$20,000</b>	<b>\$20,000</b>	-	<b>(\$3,170)</b>	<b>(\$53,948)</b>
	<b>Operating Surplus/(Deficit)</b>	<b>(\$3,605)</b>	<b>(\$13,110)</b>	<b>\$9,505</b>	<b>\$180,816</b>	<b>\$110,658</b>	<b>\$70,158</b>	<b>(\$8,649)</b>	<b>\$86,919</b>	<b>\$241,408</b>
<b>Capital Projects</b>										
3921 900 37	Fish Screen - Lower Rakaia	-	-	-	\$431,100	\$374,200	(\$56,900)	-	\$374,200	\$11,222
3921 900 48	Terricelee auto gate SCADA	-	\$15,000	\$15,000	-	\$45,000	\$45,000	-	\$75,000	-
3921 900 49	SCADA steels RD	-	-	-	-	-	-	-	\$4,000	-
3921 900 50	Emergency tipout for irrigators	-	-	-	-	\$35,000	\$35,000	-	\$35,000	-
3921 900 51	Health and Safety improvements	-	-	-	-	\$50,000	\$50,000	-	\$50,000	-
	<b>Total Capital Projects</b>	-	<b>\$15,000</b>	<b>\$15,000</b>	<b>\$431,100</b>	<b>\$504,200</b>	<b>\$73,100</b>	-	<b>\$538,200</b>	<b>\$11,222</b>
<b>Renewals</b>										
3921 905 100	Renewals - Linear (Pipe Valve)	-	\$20,000	\$20,000	\$3,738	\$60,000	\$56,262	-	\$120,000	-
3921 905 110	Renewals - P&E (PS TP Teley)	-	\$7,500	\$7,500	-	\$22,500	\$22,500	-	\$45,000	-
	<b>Total Renewals</b>	-	<b>\$27,500</b>	<b>\$27,500</b>	<b>\$3,738</b>	<b>\$82,500</b>	<b>\$78,762</b>	-	<b>\$165,000</b>	-
	<b>Closing balance</b>	<b>(\$3,605)</b>	<b>(\$55,610)</b>	<b>\$52,005</b>	<b>(\$254,022)</b>	<b>(\$476,042)</b>	<b>\$222,020</b>	<b>(\$8,649)</b>	<b>(\$616,281)</b>	<b>\$230,186</b>
<b>Special Funds</b>										
3921 982 50	Renewal Reserve	-	-	-	\$86,014	\$86,014	-	-	\$86,014	\$86,014
	<b>Total Special Funds</b>	-	-	-	<b>\$86,014</b>	<b>\$86,014</b>	-	-	<b>\$86,014</b>	<b>\$86,014</b>



	Full Budget 2017/18	Balance 2017/18	Actual YTD 2017/18	Budget YTD 2017/18	% spent
Total Expenditure	\$569,291	\$201,409	\$367,882	\$428,914	65%
Total Projects	\$25,346	\$23,987	\$1,359	\$19,017	5%
Capital Projects	\$538,200	\$107,100	\$431,100	\$504,200	80%



ELLESMERE WATER RACE - FINANCIAL COMMENTARY FOR THE YEAR ENDED MARCH 2018					
Account	Expenditure	Actual	Budget	Variance	Details
3921 410 01	External Consultants Fee	\$0	\$2,007	\$2,007	
3921 541	Insurance	\$8,997	\$7,789	(\$1,208)	Aug - Infrastructure premium
3921 583 101	Maint - General S	\$270,481	\$270,477	(\$4)	
3921 583 102	Maint - General R	\$46,125	\$68,238	\$22,113	July, Aug, Sep, Oct, Nov, Dec, Jan, Feb, Mar - Sicon Ltd - C1241 Claim Water Service O&M July - Sicon Ltd - 3018.96, Aug - Sicon Ltd - 569.25, 2998.96, Sep - Sicon Ltd - 1464.87, 2998.96, Lincoln Digital - 108.33, Oct - Meridian - 200.42, Sicon Ltd - 18,085.37, Nov - Meridian - 39.90, Sicon Ltd - 2998.96, ChCh Press - 122.00, Dec - Meridian - 38.55, Sicon Ltd - 2998.96, Jan - Meridian - 46.30, Sicon Ltd - 3126.21, Feb - Meridian - 41.54, Sicon Ltd - 3862.13, Mar - Sicon - 3358.96, Meridian - 46.29
3921 583 282	Maint - Removal R	\$0	\$15,003	\$15,003	
3921 583 602	Maint - Source/Well/Headwork R	\$111	\$0	(\$111)	Jan - Qtech - 110.50
3921 593 03	Infrastructure Agreement Fee	\$41,493	\$48,750	\$7,257	July - Glenroy Agreement to 30 Sept - 11391.65, LRDG cost share - 7318.15, Oct - Glenroy Agreement to 31 Dec - 11391.65, Dec - Glenroy Agreement to 31 Mar - 11391.65
3921 598 02	CPW transition	\$0	\$11,250	\$11,250	
3921 868	ECan/Los Monitoring	\$293	\$4,500	\$4,207	Aug - Ecan consent monitoring, Dec - Ecan consent monitoring
3921 868 01	SCADA Costs	\$382	\$900	\$518	Oct - 2Way Airtime - 10.76, Nov - 2Way Airtime - 5.38, Qtech Data - 37.81, Dec - 2Way Airtime - 5.38, Jan - 2Way Airtime - 5.38, Qtech Data - 118.07, Feb - Qtech Data - 38.92, Mar - Radio Spectrum - 8.42
	<b>Total Expenditure</b>	<b>\$367,882</b>	<b>\$428,914</b>	<b>\$61,032</b>	
3921 890 3900	Support Charges-WTR RACE	\$73,350	\$73,350	\$0	July, Aug, Sep, Oct, Nov, Dec, Jan, Feb, Mar - Selwyn District Council - Standard Charge
	<b>Total Support</b>	<b>\$73,350</b>	<b>\$73,350</b>	<b>\$0</b>	
	<b>Projects</b>				
3921 061	Renewal of consents	\$0	\$4,014	\$4,014	
3921 062	Health and Safety improvements	\$0	\$15,003	\$15,003	
3921 063	Health and Safety Improvements	\$1,359	\$0	(\$1,359)	Aug - Buddle Findlay - 1359.15
	<b>Total Projects</b>	<b>\$1,359</b>	<b>\$19,017</b>	<b>\$17,658</b>	
	<b>Capital</b>				
3921 900 37	Fish Screen - Lower Rakaia	\$431,100	\$374,200	(\$56,900)	July - Mappazzo - 5209.00, Aug - Isacc construction - 59148.04, Orion - 3610.00, Isaacs - 11041.50, Sep - Mappazzo - 5880.00, Isacc construction - 11260.00, Oct - Mappazzo - 2640.00, James Bull - 240.00, Isaac construction - 293,318.28, Nov - Jacobs NZ - 15797.67, Mappazzo - 1440.00, Jan - Nairns - 20615.74, Mappazzo - 900.00
3921 900 48	Terricelee auto gate SCADA	\$0	\$45,000	\$45,000	
3921 900 49	SCADA steels RD	\$0	\$0	\$0	
3921 900 50	Emergency tipout for irrigators	\$0	\$35,000	\$35,000	
3921 900 51	Health and Safety improvements	\$0	\$50,000	\$50,000	
	<b>Total Capital Projects</b>	<b>\$431,100</b>	<b>\$504,200</b>	<b>\$73,100</b>	
	<b>Renewals</b>				
3921 905 100	Renewals - Linear (Pipe Valve)	\$3,738	\$60,000	\$56,262	Aug - Sicon - 3737.50
3921 905 110	Renewals - Linear (Pipe Valve)	\$0	\$22,500	\$22,500	
	<b>Total Renewals</b>	<b>\$3,738</b>	<b>\$82,500</b>	<b>\$78,762</b>	
	<b>Total of above</b>	<b>\$877,429</b>	<b>\$1,107,981</b>	<b>\$230,552</b>	

**Ellesmere Water Race  
Operational Position Summary**

Revenue	YTD Actual \$	YTD Budget \$	Variance	2016/2017 Actual
Targeted Rate	330,065	337,482	(7,417)	391,420
Ellesmere Unit charge	9,223	9,270	(47)	11,236
Irrigation Charges	53,932	55,000	(1,068)	110,000
<b>Total Revenue</b>	<b>393,220</b>	<b>401,752</b>	<b>(8,532)</b>	<b>512,656</b>
<b>Expenditure</b>				
Total Operational Expenditure	367,882	428,914	61,032	493,565
Total Support	73,350	73,350	0	92,236
Total Operational Projects	1,359	19,017	17,658	119
Total Renewals	3,738	82,500	78,762	0
<b>Total Expenditure</b>	<b>446,329</b>	<b>603,781</b>	<b>157,452</b>	<b>585,920</b>
<b>Operating Surplus/(Deficit)</b>	<b>(53,109)</b>	<b>(202,029)</b>	<b>148,920</b>	<b>(73,264)</b>

**Operating Position Summary**

	YTD Actual \$	YTD Budget \$	Variance
<b>Opening Account Balance</b>	<b>230,187</b>	<b>210,187</b>	<b>20,000</b>
<b>Plus</b> Operating Surplus/(Deficit)	<b>(53,109)</b>	<b>(202,029)</b>	<b>148,920</b>
<b>Plus</b> Prior year Projects Carried Forward	<b>0</b>	<b>20,000</b>	<b>(20,000)</b>
<b>Less</b> Capital Projects	<b>(431,100)</b>	<b>(504,200)</b>	<b>73,100</b>
Net Reserves Transfers	3,738	82,500	(78,762)
<b>Closing Account Balance</b>	<b>(250,284)</b>	<b>(393,542)</b>	<b>143,258</b>

**Special Funds Account - Renewals**

	YTD Actual \$	YTD Budget \$	Variance
<b>Opening Account Balance</b>	<b>86,014</b>	<b>86,014</b>	<b>0</b>
<b>Plus</b> Transfers in	<b>0</b>	<b>0</b>	<b>0</b>
<b>Plus</b> Interest	<b>0</b>	<b>0</b>	<b>0</b>
<b>Less</b> Funding of Renewals	<b>(3,738)</b>	<b>(82,500)</b>	<b>78,762</b>
<b>Closing Account Balance</b>	<b>82,276</b>	<b>3,514</b>	<b>78,762</b>

Financial Month is set to 03/18 and Budget AB01 is in use.

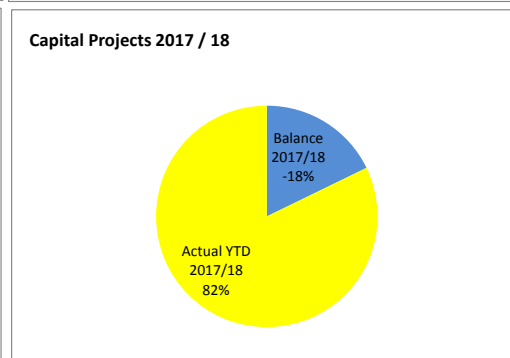
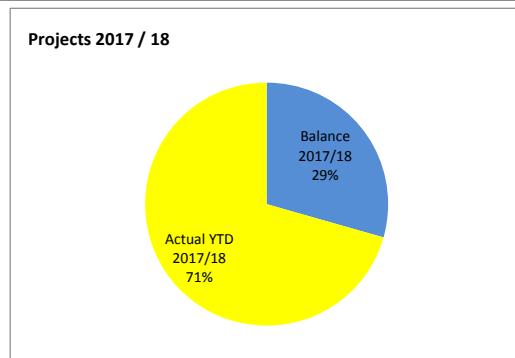
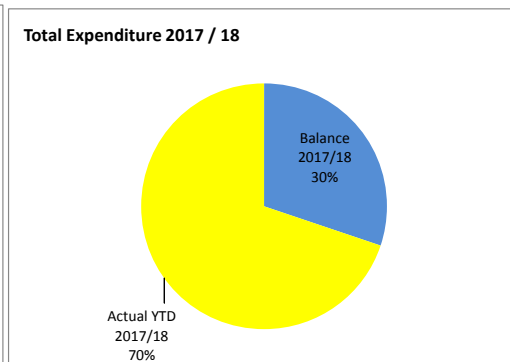
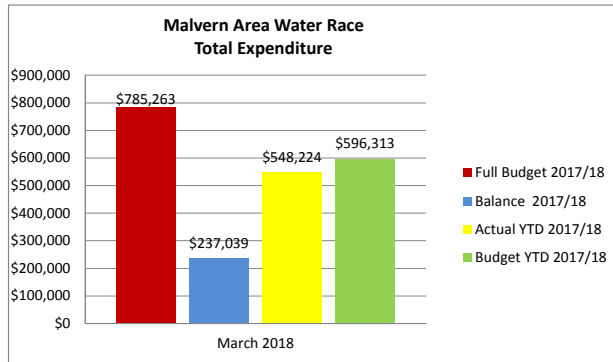
MALVERN AREA WATER RACE  
Statement of Operations

March 2018



Account	Detail	Month Actual	Month Budget	Month Variance	YTD Actual 2017/18	Ytd Budget 2017/18	Ytd Variance	Committed Expenditure	FYR Budget 2017/18	Last Year 2016/17
<b>Opening Balance</b>										
3951 980 01	Malvern W/Rc Oper Open Blnce.	-	-	-	(\$1,030,298)	(\$1,889,794)	\$859,496	-	(\$1,889,794)	(\$182,417)
3951 980 02	Opening Balance	-	-	-	(\$5,000)	-	(\$5,000)	-	-	(\$2,500)
3951 980 04	Opening Balance	-	-	-	(\$5,000)	-	(\$5,000)	-	-	(\$2,500)
3951 980 07	Opening Balance	-	-	-	(\$3,332)	-	(\$3,332)	-	-	(\$1,666)
3951 980 08	Opening Balance	-	-	-	(\$2,000)	-	(\$2,000)	-	-	(\$1,000)
3951 980 09	APPROPRIATION ACCOUNT	-	-	-	(\$24,656)	-	(\$24,656)	-	-	(\$12,328)
	<b>Total Opening Balance</b>	-	-	-	(\$1,070,286)	(\$1,889,794)	\$819,508	-	(\$1,889,794)	(\$202,411)
<b>Income</b>										
3951 101	Targeted Rate	\$71,393	\$71,558	(\$165)	\$642,317	\$644,022	(\$1,705)	-	\$858,700	\$715,067
3951 101 01	Urban Public Good	\$1,960	\$1,978	(\$18)	\$17,614	\$17,802	(\$188)	-	\$23,740	\$19,263
3951 162	General Receipts	-	-	-	\$1,013	-	\$1,013	-	-	\$14,522
3951 162 02	Malvern irrigation	-	-	-	-	-	-	-	\$43,000	\$43,399
	<b>Total Income</b>	<b>\$73,353</b>	<b>\$73,536</b>	<b>(\$183)</b>	<b>\$660,944</b>	<b>\$661,824</b>	<b>(\$880)</b>	-	<b>\$925,440</b>	<b>\$792,251</b>
<b>Expenditure</b>										
3951 410 01	External Consultants Fee	-	\$312	\$312	-	\$2,808	\$2,808	-	\$3,742	\$2,223
3951 450	Electricity	\$173	-	(\$173)	\$1,453	-	(\$1,453)	-	-	\$770
3951 540	Rates	-	-	-	\$710	\$700	(\$10)	-	\$700	\$675
3951 541	Insurance	-	-	-	\$33,235	\$28,721	(\$4,514)	-	\$28,721	\$27,281
3951 583 101	Maint - General S	\$47,302	\$47,302	-	\$425,714	\$425,718	\$4	-	\$567,619	\$567,619
3951 583 102	Maint - General R	\$9,582	\$9,915	\$333	\$84,716	\$89,235	\$4,519	-	\$118,981	\$116,130
3951 583 602	Maint - Source/Well/Headwork R	-	-	-	-	-	-	-	-	\$30
3951 593 282	Maint - Bank Removal R	-	\$4,167	\$4,167	-	\$37,503	\$37,503	-	\$50,000	-
3951 868	ECan/LoS Monitoring	-	\$667	\$667	\$1,501	\$6,003	\$4,502	\$450	\$8,000	\$3,949
3951 868 01	Scada Costs	\$30	\$125	\$95	\$895	\$1,125	\$230	-	\$1,500	\$1,550
3951 871	Urban Enhancement	-	\$500	\$500	-	\$4,500	\$4,500	-	\$6,000	-
	<b>Total Expenditure</b>	<b>\$57,087</b>	<b>\$62,988</b>	<b>\$5,901</b>	<b>\$548,224</b>	<b>\$596,313</b>	<b>\$48,089</b>	<b>\$450</b>	<b>\$785,263</b>	<b>\$720,227</b>
<b>Support</b>										
3951 890 3900	Support Charges-WTR RACE	\$9,222	\$9,222	-	\$83,002	\$82,998	(\$4)	-	\$110,669	\$104,372
	<b>Total Support</b>	<b>\$9,222</b>	<b>\$9,222</b>	-	<b>\$83,002</b>	<b>\$82,998</b>	<b>(\$4)</b>	-	<b>\$110,669</b>	<b>\$104,372</b>
<b>Projects</b>										
3951 073	Condition inspection of water race	-	-	-	-	-	-	-	-	\$5,000
3951 074	Health and Safety improvements	-	\$1,667	\$1,667	\$21,356	\$15,003	(\$6,353)	-	\$20,000	\$1,369
3951 077	Renewal of consents	-	\$446	\$446	-	\$4,014	\$4,014	-	\$5,346	-
3951 096	CPW Transition	-	\$417	\$417	\$65	\$3,753	\$3,688	-	\$5,000	\$45,123
	<b>Total Projects</b>	-	<b>\$2,530</b>	<b>\$2,530</b>	<b>\$21,421</b>	<b>\$22,770</b>	<b>\$1,349</b>	-	<b>\$30,346</b>	<b>\$51,492</b>
<b>Transfers - Operations</b>										
3951 970 01	Transfer (to)/from Reserves	-	-	-	-	-	-	-	(\$28,140)	(\$178,767)
3951 970 99	Carry Forward Projects	-	-	-	-	\$819,508	\$819,508	-	\$819,508	-
	<b>Total Transfers - Operations</b>	-	-	-	-	<b>\$819,508</b>	<b>\$819,508</b>	-	<b>\$791,368</b>	<b>(\$178,767)</b>
	<b>Operating Surplus/(Deficit)</b>	<b>\$7,044</b>	<b>(\$1,204)</b>	<b>\$8,248</b>	<b>(\$1,061,989)</b>	<b>(\$1,110,543)</b>	<b>\$48,554</b>	<b>(\$450)</b>	<b>(\$1,099,264)</b>	<b>(\$465,018)</b>
<b>Capital Projects</b>										
3951 900 17	Fix leakage morrisons main race	-	-	-	-	-	-	-	-	\$4,140
3951 900 66	Fish Screen-Waimak Intake	\$37,769	-	(\$37,769)	\$512,004	\$302,835	(\$209,169)	-	\$302,835	\$66,293
3951 900 67	Fish Screen-Upper Kowai Intake	\$18,938	-	(\$18,938)	\$530,354	\$310,560	(\$219,794)	-	\$310,560	\$466,596
3951 900 72	Glentunnel Intake Upgrade	\$8,363	\$15,509	\$7,146	\$44,767	\$139,581	\$94,814	-	\$186,108	\$34,266
3951 900 77	SCADA monitoring Sites	-	\$10,000	\$10,000	\$2,852	\$20,000	\$17,148	-	\$40,000	-
3951 900 78	H&S Upgrades	-	-	-	\$50,349	\$50,000	(\$349)	-	\$50,000	-
3951 900 79	Flow Gauge	-	-	-	-	-	-	-	\$4,000	-
	<b>Total Capital Projects</b>	<b>\$65,070</b>	<b>\$25,509</b>	<b>(\$39,561)</b>	<b>\$1,140,326</b>	<b>\$822,976</b>	<b>(\$317,350)</b>	-	<b>\$893,503</b>	<b>\$571,295</b>
<b>Renewals</b>										
3951 905 08	Waimak Ladder Upgrade	-	-	-	-	-	-	-	-	\$4,850
3951 905 100	Renewals - Linear (Pipe Valve)	-	\$20,000	\$20,000	\$10,362	\$60,000	\$49,638	-	\$120,000	\$29,123
3951 905 110	Renewals - P&E (PS TP Teley)	-	\$22,500	(\$22,500)	\$15,439	\$67,500	\$52,061	\$68,000	\$135,000	-
		-	\$42,500	\$42,500	\$25,801	\$127,500	\$101,699	\$68,000	\$255,000	\$33,973
	<b>Closing balance</b>	<b>(\$58,026)</b>	<b>(\$69,213)</b>	<b>\$11,187</b>	<b>(\$2,228,116)</b>	<b>(\$2,061,019)</b>	<b>(\$167,097)</b>	<b>(\$68,450)</b>	<b>(\$2,247,767)</b>	<b>(\$1,070,286)</b>
<b>Special Funds</b>										
3951 982 50	Renewal Reserve	-	-	-	\$378,081	\$378,081	-	-	\$378,081	\$378,081
	<b>Total Special Funds</b>	-	-	-	<b>\$378,081</b>	<b>\$378,081</b>	-	-	<b>\$378,081</b>	<b>\$378,081</b>

	Full Budget 2017/18	Balance 2017/18	Actual YTD 2017/18	Budget YTD 2017/18	% spent
Total Expenditure	\$785,263	\$237,039	\$548,224	\$596,313	70%
Total Projects	\$30,346	\$8,925	\$21,421	\$22,770	71%
Capital Projects	\$893,503	\$(246,823)	\$1,140,326	\$822,976	128%



MALVERN AREA WATER RACE - FINANCIAL COMMENTARY FOR THE YEAR ENDED MARCH 2018					
Account	Expenditure	Actual	Budget	Variance	Details
3951 410 01	External Consultants Fee	\$0	\$2,808	\$2,808	
3951 450	Electricity	\$1,453	\$0	(\$1,453)	July - Meridian - 66.40, Aug - 73.95, Sep - Meridian - 202.57, Oct - 234.51, Nov - 139.35, Dec - 120.66, Jan - 290.10, Feb - 153.18, Mar - 172.50
3951 540	Rates	\$710	\$700	(\$10)	Oct - Rates 710.48
3951 541	Insurance	\$33,235	\$28,721	(\$4,514)	Aug - Premium 2017-18
3951 583 101	Maint - General S	\$425,714	\$425,718	\$4	July, Aug, Sep, Oct, Nov, Dec, Jan, Feb, Mar - Sicon Ltd - C1241 Claim Water Service O&M
3951 583 102	Maint - General R	\$84,716	\$89,235	\$4,519	July - Sicon Ltd - 4081.77, Aug - Sicon Ltd - 7807.77, Sep - Sicon Ltd - 17501.22, Lincoln Digital - 108.33, Oct - Sicon Ltd - 14236.17, Nov - Sicon Ltd - 8676.26, ChCh Press - 130.00, Dec - Sicon Ltd - 8745.99, Boraman Consulting - 155.52, Jan - Sicon - 5569.52, Feb - Sicon Ltd - 8004.65, Boraman Consulting - 116.64, Mar - Sicon - 9581.65
3951 583 602	Maint - Source/Well/Headwork R	\$0	\$0	\$0	
3951 593 282	Maint - Bank Removal R	\$0	\$37,503	\$37,503	
3951 868	ECan/LoS Monitoring	\$1,501	\$6,003	\$4,502	Aug - Ecan consent monitoring - 450.00, Sep - Hydrological Links - 173.70, Ecan consent monitoring - 45.00, Dec - Ecan consent monitoring - 180.00, Jan - 495.00, Feb - Ecan consent monitoring - 157.50
3951 868 01	Scada Costs	\$895	\$1,125	\$230	Aug - Spark - 30.00, Qtech - 133.12, Boraman - 311.04, Sep - Qtech - 55.67, Nov - Qtech - 50.41, Spark - 45.00, Jan - Qtech - 157.93, Feb - Spark - 30.00, Qtech - 51.91, Mar - Spark - 30.00
3951 871	Urban Enhancement	\$0	\$4,500	\$4,500	
	<b>Total Expenditure</b>	<b>\$548,224</b>	<b>\$596,313</b>	<b>\$48,089</b>	
3951 890 3900	Support Charges-WTR RACE	\$83,002	\$82,998	(\$4)	July, Aug, Sep, Oct, Nov, Dec, Jan, Feb - Selwyn District Council - Standard Charge
	<b>Total Support Charges</b>	<b>\$83,002</b>	<b>\$82,998</b>	<b>(\$4)</b>	
3951 073	Condition inspection of water race	\$0	\$0	\$0	
3951 074	Health and Safety improvements	\$21,356	\$15,003	(\$6,353)	Sep - Sicon Ltd - 1242.00, Jan - 20114.25
3951 077	Renewal of consents	\$0	\$4,014	\$4,014	
3951 096	CPW Transition	\$65	\$3,753	\$3,688	July - Buddle Findlay - 64.66
	<b>Total Projects</b>	<b>\$21,421</b>	<b>\$22,770</b>	<b>\$1,349</b>	
3951 900 17	Fix leakage morrison's main race	\$0	\$0	\$0	
3951 900 66	Fish Screen-Waimak Intake	\$512,004	\$302,835	(\$209,169)	Aug - Isaacs - 236949.29, Orion - 2585.00, Oct - Isaacs - 234680.26, Nov - Jacobs NZ - 20.00, Mar - 37768.95
3951 900 67	Fish Screen-Upper Kowai Intake	\$530,354	\$310,560	(\$219,794)	Aug - Redpaths - 84.44, Isaacs - 35350.78, Oct - Nairns - 716.56, Isaacs - 2066.68, Nov - HiTech Aerials - 112.96, Jan - Sicon - 713.00, Nairns - 9837.00, Feb - Isaacs - 462535.24, Mar - Isaacs - 9262.51, Nairns - 9675.22
3951 900 72	Glentunnel Intake Upgrade	\$44,767	\$139,581	\$94,814	Nov - Jacobs NZ - 19024.33, Jan - Orion - 3610.00, Nairns - 8149.54, Feb - Sicon - 1632.49, Boraman - 3988.03, Mar - Jacobs - 7612.00, Sicon - 750.89
3951 900 77	SCADA monitoring Sites	\$2,852	\$20,000	\$17,148	Oct - Nairns - 2344.78, Nov - Qtech - 507.00
3951 900 78	H&S Upgrades	\$50,349	\$50,000	(\$349)	Jan - Sicon - 48899.00, Feb - Sicon - 48899.00, James Bull - 300.00
3951 900 79	Flow Gauge	\$0	\$0	\$0	
	<b>Total Capital Projects</b>	<b>\$1,140,326</b>	<b>\$822,976</b>	<b>(\$317,350)</b>	
3951 905 08	Waimak Ladder Upgrade	\$0	\$0	\$0	
3951 905 100	Renewals - Linear (Pipe Valve)	\$10,362	\$60,000	\$49,638	Aug - Sicon - 3737.50, Jan - Sicon - 6624.23
3951 905 110	Renewals - P&E (PS TP Teley)	\$15,439	\$67,500	\$52,061	Jan - Sicon - 15439.00
	<b>Total Renewals</b>	<b>\$25,801</b>	<b>\$127,500</b>	<b>\$101,699</b>	

**Malvern Area Water Race  
Operational Position Summary**

<b>Revenue</b>	<b>2017 / 2018 YTD Actual</b>	<b>2017 / 2018 YTD Budget</b>	<b>Variance \$</b>	<b>2016/17 Actual</b>
Targeted Rate	642,317	644,022	(1,705)	715,067
Urban Public Good	17,614	17,802	(188)	19,263
General Receipts	1,013	0	1,013	14,522
Malvern irrigation	0	0	0	43,399
<b>Total Revenue</b>	<b>660,944</b>	<b>661,824</b>	<b>(880)</b>	<b>792,251</b>
<b>Expenditure</b>				
Total Operational Expenditure	548,224	596,313	48,089	720,227
Total Support	83,002	82,998	(4)	104,372
Total Operational Projects	21,421	22,770	1,349	51,492
Total Renewals	25,801	127,500	101,699	33,973
<b>Total Expenditure</b>	<b>678,448</b>	<b>829,581</b>	<b>151,133</b>	<b>910,064</b>
<b>Operating Surplus/(Deficit)</b>	<b>\$(17,504)</b>	<b>\$(167,757)</b>	<b>\$150,253</b>	<b>(117,813)</b>

**Operating Position Summary**

	<b>2017 / 2018 YTD Actual</b>	<b>2017 / 2018 YTD Budget</b>	<b>Variance \$</b>
<b>Opening Account Balance</b>	<b>(1,070,286)</b>	<b>(1,889,794)</b>	<b>819,508</b>
<b>Plus</b> Operating Surplus/(Deficit)	(17,504)	(167,757)	150,253
<b>Plus</b> Prior year Projects Carried Forward	0	819,508	(819,508)
<b>Less</b> Capital Projects	(1,140,326)	(822,976)	(317,350)
Net Reserves Transfers	25,801	127,500	(101,699)
<b>Closing Account Balance</b>	<b>(\$2,202,315)</b>	<b>(\$1,933,519)</b>	<b>(268,796)</b>

**Special Funds Account - Renewals**

	<b>2017 / 2018 YTD Actual</b>	<b>2017 / 2018 YTD Budget</b>	<b>Variance \$</b>
<b>Opening Account Balance</b>	<b>378,081</b>	<b>378,081</b>	<b>0</b>
<b>Plus</b> Transfers in	0	0	0
<b>Plus</b> Interest			0
<b>Less</b> Funding of Renewals	(25,801)	(127,500)	101,699
<b>Closing Account Balance</b>	<b>\$352,280</b>	<b>\$250,581</b>	<b>101,699</b>

Financial Month is set to 03/18 and Budget AB01 is in use.

## PAPARUA WATER RACE

March 2018

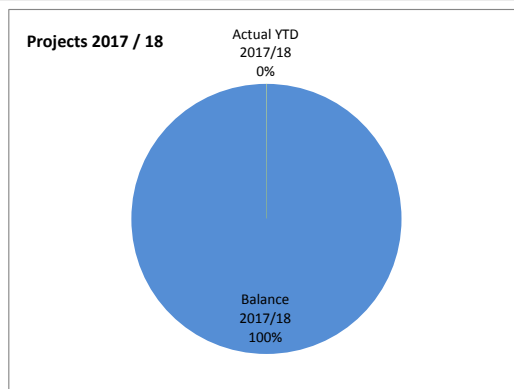
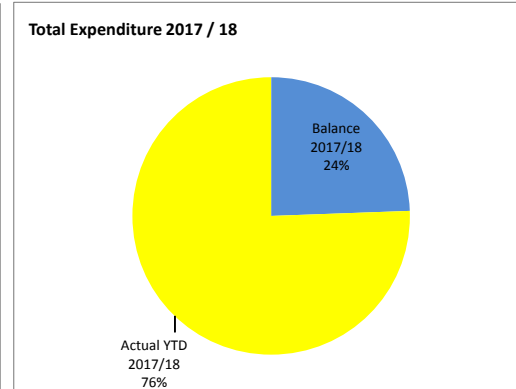
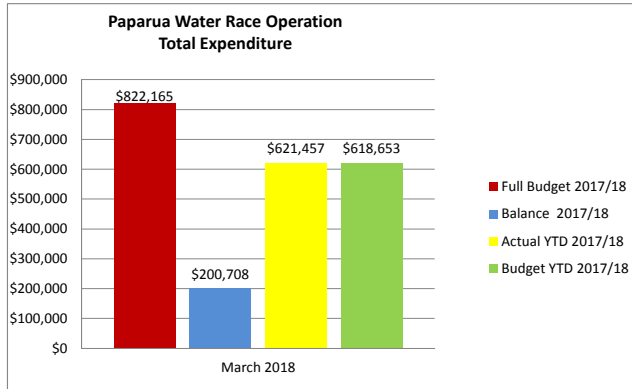


## Statement of Operations

Account	Detail	Month Actual	Month Budget	Month Variance	YTD Actual 2017/18	Ytd Budget 2017/18	Ytd Variance	Committed Expenditure	FYR Budget 2017/18	Last Year 2016/17
<b>Opening Balance</b>										
3954 980 01	Paparua W/Rc Oper Open Blnce.	-	-	-	(\$386,067)	(\$404,869)	\$18,802	-	(\$404,869)	(\$109,979)
	<b>Total Opening Balance</b>	-	-	-	(\$386,067)	(\$404,869)	\$18,802	-	(\$404,869)	(\$109,979)
<b>Income</b>										
3954 101	Targeted Rate	\$41,557	\$42,683	(\$1,126)	\$374,037	\$384,147	(\$10,110)	-	\$512,190	\$414,530
3954 101 01	Public Good Rate	\$4,934	\$4,923	\$11	\$44,396	\$44,307	\$89	-	\$59,071	\$48,985
3954 101 02	Urban Public Good	\$11,829	\$11,738	\$91	\$106,268	\$105,642	\$626	-	\$140,861	\$109,871
3954 135	CCC Share-Public Good	-	-	-	\$71,696	\$35,848	\$35,848	-	\$71,696	\$71,696
3954 162	General Receipts	-	-	-	-	-	-	-	-	\$780
3954 187	Irrigation Charges	-	-	-	\$181,956	\$170,000	\$11,956	-	\$170,000	\$167,107
3954 187 02	Irrigation Rebate	-	-	-	\$24,592	(\$30,000)	\$54,592	-	(\$30,000)	(\$48,961)
	<b>Total Income</b>	\$58,320	\$59,344	(\$1,024)	\$802,945	\$709,944	\$93,001	-	\$923,818	\$764,008
<b>Expenditure</b>										
3954 410 011	External Consultants Fee	-	\$312	\$312	-	\$2,808	\$2,808	-	\$3,742	-
3954 450	Electricity	\$28	\$50	\$22	\$256	\$450	\$194	-	\$600	\$291
3954 541	Insurance	-	-	-	\$9,439	\$8,093	(\$1,346)	-	\$8,093	\$7,706
3954 583 101	Maint - General S	\$55,579	\$55,579	-	\$501,038	\$500,211	(\$827)	-	\$666,950	\$666,950
3954 583 102	Maint - General R	\$6,857	\$8,665	\$1,808	\$89,751	\$77,985	(\$11,766)	\$2,000	\$103,981	\$121,082
3954 583 272	Maint - Cleaning R	\$3,323	-	(\$3,323)	\$4,026	-	(\$4,026)	-	-	\$2,000
3954 583 602	Maint - Source/Well/Headwork R	-	-	-	\$16,721	-	(\$16,721)	-	-	\$7,463
3954 593 282	Maint - Bank Removal R	-	\$1,667	\$1,667	-	\$15,003	\$15,003	-	\$20,000	-
3954 868	ECan/LoS Monitoring	-	\$125	\$125	\$68	\$1,125	\$1,057	-	\$1,500	\$750
3954 868 01	Scada Costs	\$8	\$25	\$17	\$158	\$225	\$67	-	\$299	\$271
3954 871	Urban Enhancement	-	\$1,417	\$1,417	-	\$12,753	\$12,753	-	\$17,000	\$16,599
	<b>Total Expenditure</b>	\$65,795	\$67,840	\$2,045	\$621,457	\$618,653	(\$2,804)	\$2,000	\$822,165	\$823,112
<b>Support</b>										
3954 890 3900	Support Charges-WTR RACE	\$4,075	\$4,075	-	\$36,675	\$36,675	-	-	\$48,900	\$46,118
	<b>Total Support</b>	\$4,075	\$4,075	-	\$36,675	\$36,675	-	-	\$48,900	\$46,118
<b>Projects</b>										
3954 082	Health and Safety improvements	-	\$1,567	\$1,567	-	\$14,103	\$14,103	-	\$18,800	\$2,998
3954 084	Renewal of consents	-	\$446	\$446	-	\$4,014	\$4,014	-	\$5,346	-
	<b>Total Projects</b>	-	\$2,013	\$2,013	-	\$18,117	\$18,117	-	\$24,146	\$2,998
<b>Transfers - Operations</b>										
3954 970 01	Transfer (to)/from Reserves	-	-	-	-	-	-	-	(\$32,639)	(\$65,170)
3954 970 99	Carry Forward Projects	-	-	-	-	\$18,800	\$18,800	-	\$18,800	-
	<b>Total Transfers - Operations</b>	-	-	-	-	\$18,800	\$18,800	-	(\$13,839)	(\$65,170)
	<b>Operating Surplus/(Deficit)</b>	(\$11,550)	(\$14,584)	\$3,034	(\$241,254)	(\$349,570)	\$108,316	(\$2,000)	(\$390,101)	(\$283,369)
<b>Capital Projects</b>										
3954 900 07	Railway Road - tipout point	-	-	-	-	\$15,000	\$15,000	-	\$15,000	-
3954 900 09	H&S Upgrades	-	-	-	-	\$50,000	\$50,000	-	\$50,000	-
	<b>Total Capital Projects</b>	-	-	-	-	\$65,000	\$65,000	-	\$65,000	-
<b>Renewals</b>										
3954 905 100	Renewals - Linear (Pipe Valve)	-	\$20,000	\$20,000	-	\$60,000	\$60,000	-	\$120,000	\$102,700
	<b>Total Renewals</b>	-	\$20,000	\$20,000	-	\$60,000	\$60,000	-	\$120,000	\$102,700
	<b>Closing balance</b>	(\$11,550)	(\$34,584)	\$23,034	(\$241,254)	(\$474,570)	\$233,316	(\$2,000)	(\$575,101)	(\$386,069)
<b>Special Funds</b>										
3954 982 50	Renewal Reserve	-	-	-	\$302,402	\$302,402	-	-	\$302,402	\$302,402
	<b>Total Special Funds</b>	-	-	-	\$302,402	\$302,402	-	-	\$302,402	\$302,402
		-	-	-	-	-	-	-	-	-



	Full Budget 2017/18	Balance 2017/18	Actual YTD 2017/18	Budget YTD 2017/18	% spent
Total Expenditure	\$822,165	\$200,708	\$621,457	\$618,653	76%
Projects	\$24,146	\$24,146	\$0	\$18,117	0%
Capital Projects	\$65,000	\$65,000	\$0	\$65,000	



PAPARUA WATER RACE - FINANCIAL COMMENTARY FOR THE YEAR ENDED - MARCH 2018					
Account	Expenditure	Actual	Budget	Variance	Description
3954 410 011	External Consultants Fee	\$0	\$2,808	\$2,808	
3954 450	Electricity	\$256	\$450	\$194	Meridian - <b>July</b> - 25.64, <b>Aug</b> - 26.37, <b>Sep</b> - 27.17, <b>Oct</b> - 29.37, <b>Nov</b> - 29.37, <b>Dec</b> - 28.45, <b>Jan</b> - 31.22, <b>Feb</b> - 30.86, <b>Mar</b> - 27.89
3954 541	Insurance	\$9,439	\$8,093	(\$1,346)	<b>Aug</b> - Premium 2017/18 - 9438.71
3954 583 101	Maint - General S	\$501,038	\$500,211	(\$827)	<b>July, Aug, Sep, Oct, Nov, Dec, Jan, Feb, Mar</b> - Sicon Ltd - C1241 Claim Water Service O&M
3954 583 102	Maint - General R	\$89,751	\$77,985	(\$11,766)	<b>July</b> - HCB Technologies - 674.31, Sicon Ltd - 4265.77, <b>Aug</b> - Sicon - 4455.52, <b>Sep</b> - HCB Technologies - 682.31, Sicon Ltd - 10464.05, Lincoln Digital - 108.33, <b>Oct</b> - James Bull - 100.00, Sicon - 4081.77, <b>Nov</b> - Buddle Findlay - 4533.94, James Bull - 180.00, Sicon Ltd - 7988.90, <b>Dec</b> - Sicon Ltd - 26134.96, HCB Tech - 707.52, <b>Jan</b> - HCB Tech - 707.52, Newlands - 6.54, Buddle findlay - 1045.50, James Bull - 159.21, Sicon - 6773.32, <b>Feb</b> - Sicon - 9824.40, <b>Mar</b> - Sicon - 6857.27
3954 583 272	Maint - Cleaning R	\$4,026	\$0	(\$4,026)	<b>Aug</b> - Refuse Disposal - 186.99, <b>Sep</b> - Refuse Disposal - 208.50, <b>Oct</b> - 77.39, <b>Nov</b> - Refuse Disposal - 97.85, <b>Jan</b> - Refuse Disposal - 132.45, <b>Mar</b> - Refuse Disposal - 3322.96
3954 583 602	Maint - Source/Well/Headwork R	\$16,721	\$0	(\$16,721)	<b>Aug</b> - Sicon - 1638.75, <b>Oct</b> - 4574.17, <b>Dec</b> - 1607.13, <b>Jan</b> - 5068.63, <b>Feb</b> - 3832.38
3954 593 282	Maint - Bank Removal R	\$0	\$15,003	\$15,003	
3954 868	ECan/LoS Monitoring	\$68	\$1,125	\$1,057	<b>Feb</b> - Ecan - 67.50
3954 868 01	Scada Costs	\$158	\$225	\$67	<b>July</b> - 2way Airtime - 5.28, <b>Aug</b> - Qtech Data - 33.28, <b>Sep</b> - 2way Airtime - 5.38, Qtech Data - 13.92, <b>Oct</b> - 2way Airtime - 10.76, <b>Nov</b> - 2way Airtime - 5.38, Qtech Data - 12.60, <b>Dec</b> - 2way Airtime - 5.38, <b>Jan</b> - 2way Airtime - 5.38, Qtech Data - 39.36, <b>Feb</b> - Qtech Data - 12.97, <b>Mar</b> -Radio Spectrum - 8.42
3954 871	Urban Enhancement	\$0	\$12,753	\$12,753	
	<b>Total Expenditure</b>	<b>\$621,457</b>	<b>\$618,653</b>	<b>(\$2,804)</b>	
3954 890 3900	Support Charges-WTR RACE	\$36,675	\$36,675	\$0	<b>July, Aug, Sep, Oct, Nov, Dec, Jan, Feb, Mar</b> - Selwyn District Council - Standard Charge
	<b>Total Support</b>	<b>\$36,675</b>	<b>\$36,675</b>	<b>\$0</b>	
<b>Projects</b>					
3954 082	Health and Safety improvements	\$0	\$14,103	\$14,103	
3954 084	Renewal of consents	\$0	\$4,014	\$4,014	
	<b>Total Projects</b>	<b>\$0</b>	<b>\$18,117</b>	<b>\$18,117</b>	
<b>Capital Projects</b>					
3954 900 07	Railway Road - tipout point	\$0	\$15,000	\$15,000	
3954 900 07	H&S Upgrades	\$0	\$50,000	\$50,000	
	<b>Total Capital Projects</b>	<b>\$0</b>	<b>\$65,000</b>	<b>\$65,000</b>	
<b>Renewals</b>					
3954 905 100	Renewals - Linear (Pipe Valve)	\$0	\$60,000	\$60,000	
	<b>Total Renewals</b>	<b>\$0</b>	<b>\$60,000</b>	<b>\$60,000</b>	

**Paparua Water Race  
Operational Position Summary**

Revenue	YTD Actual \$	YTD Budget \$	Variance \$	2016/2017 Actual
Targeted Rate	374,037	384,147	(10,110)	414,530
Public Good Rate	44,396	44,307	89	48,985
Urban Public Good	106,268	105,642	626	109,871
CCC Share-Public Good	71,696	35,848	35,848	71,696
Irrigation Right Application	0	0	0	0
General Receipts	0	0	0	780
Dawsons Rd Water Race Upgrade	0	0	0	0
Irrigation Charges	181,956	170,000	11,956	167,107
Irrigation Rebate	24,592	(30,000)	54,592	(48,961)
<b>Total Revenue</b>	<b>802,945</b>	<b>709,944</b>	<b>93,001</b>	<b>764,008</b>
<b>Expenditure</b>				
Total Operational Expenditure	621,457	618,653	(2,804)	823,112
Total Support	36,675	36,675	0	46,118
Total Operational Projects	0	18,117	18,117	2,998
Total Renewal Expenditure	0	60,000	60,000	
<b>Total Expenditure</b>	<b>658,132</b>	<b>733,445</b>	<b>75,313</b>	<b>872,228</b>
<b>Operating Surplus/(Deficit)</b>	<b>144,813</b>	<b>(23,501)</b>	<b>168,314</b>	<b>(108,220)</b>

**Operating Position Summary**

	Actual \$	YTD Budget \$	Variance \$
<b>Opening Account Balance</b>	<b>(386,067)</b>	<b>(404,869)</b>	<b>18,802</b>
<b>Plus</b> Operating Surplus/(Deficit)	144,813	(23,501)	168,314
<b>Plus</b> Prior year Projects Carried Forward	0	18,800	(18,800)
<b>Less</b> Capital Projects	0	(65,000)	65,000
Net Reserves Transfers	0	60,000	(60,000)
<b>Closing Account Balance</b>	<b>(241,254)</b>	<b>(414,570)</b>	<b>173,316</b>

**Special Funds Account - Renewals**

	YTD Actual \$	YTD Budget \$	Variance
<b>Opening Account Balance</b>	<b>302,402</b>	<b>302,402</b>	<b>0</b>
<b>Plus</b> Transfers in			0
<b>Plus</b> Interest	0	0	0
<b>Less</b> Funding of Renewals	0	(60,000)	60,000
<b>Closing Account Balance</b>	<b>\$302,402</b>	<b>\$242,402</b>	<b>\$60,000</b>

## REPORT

**TO:** Asset Manager, Water Services

**FOR:** Water Race Sub Committee Meeting – 14 May 2018.

**FROM:** Daniel Meehan – Surface Water Operations Engineer

**DATE:** 4 May 2018

**SUBJECT:** Items Of Unplanned Expenditure Over \$5,000

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**1. RECOMMENDATION**

- 1.1** That the Water Race Subcommittee receives this report. "Items Of Unplanned Expenditure Over \$5,000" for information

**2. PURPOSE**

- 2.1** Provide the Water Race Subcommittee with information detailing the water race schemes and individual unplanned expenditure items over \$5,000 in February, March and April 2018.

**3. SIGNIFICANCE ASSESSMENT/COMPLIANCE STATEMENT**

- 3.1** This report covers the period February, March and April 2018.

Activity occurring over \$5000		
Scheme	Amount	Activity
Paparua	\$7,365.81	Cleaning Water Race through Stonebrook Reserve

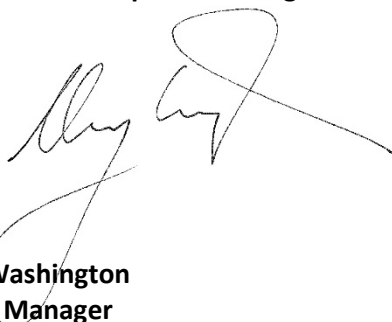
- 3.2** Items of expenditure over \$5,000 committed in the next period. May 2018 and June 2018.

Activity planned over \$5000		
Scheme	Amount	Activity
Paparua	\$8,690.00	Repair Thompsons divide, replace culvert headwall and gate.
Ellesmere	\$38,815.00	Safety improvements as per NTC 8.

**ENDORSED FOR AGENDA**



**Daniel Meehan**  
Surface Water Operations Engineer



**M F Washington**  
Asset Manager

## MEMORANDUM

**To: Water Race Sub Committee**  
**From: Daniel Meehan**  
**Date: 01 May 2018**  
**Subject: Fish Screen Project Update**

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This Memo is to update Water Race Sub Committee of progress with the Fish Screen Project.

### **Background**

ECAN consents to take surface water for Selwyn District Council stock water race networks have conditions that require fish screens be installed at each of our intakes. Paparua Intake already has a screen installed, and Upper Kowai intake was installed and commissioned December 2016. This project is to install fish screen on the remaining stock water race intakes. Tender was awarded to Isaac's construction for the remaining 3 sites (Waimak, Glentunnel and Lower Rakaia) 12 May 2017 for contract price of \$1,174,537.60

### **Sites Completed to Date**

- Practical completion has been awarded for the Waimakiri (Skurrs) Fish Screen Site and the Lower Rakaia Fish Screen Site;
- Operators have conveyed that the sites are working well.

### **Waimakairiri Spring Channel Suitability –**

- Ecan have recently advised SDC that discharging the bypass water from the Waimakairiri Fish Screen into the Skurrs spring system could be a breach of Land and Water Plan rules and resource consent conditions.
- Specifically, concerns were about sediments from Waimakairiri River water being discharged into the pristine spring environment.
- A joint site inspection was conducted by SDC staff and Ecan officers in 23 February 2018. This had confirmed some of the concerns that the Skurrs spring channel may not be suitable as a bypass due to constraints such as (and limited) vegetation in the stream.
- It was also expressed during this site meeting that no concerns were raised by ECAN about the site suitability and effects of discharging to the spring during planning and consultation phase of the project in 2014 till 2016. It is not possible to make major changes to site layout, or move the location of site at this stage of the project.

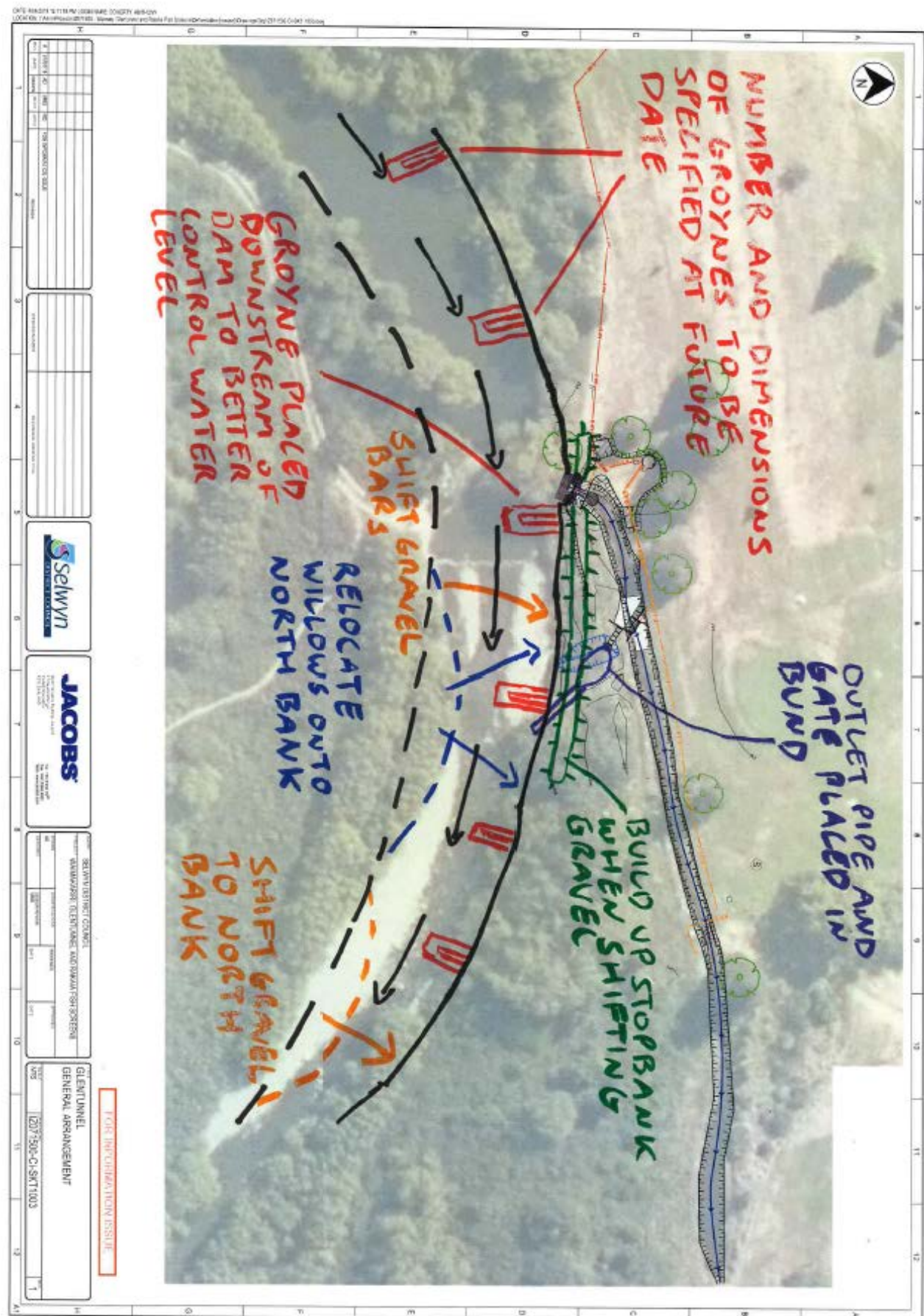
- Ecan has since come back with a list of actions to work through, which may limit the impact of the fish screen on the spring environment;
- SDC and consultants will work through the recommendations and come up with practical solutions to the issues raised. This work will commence once practical completion of the Glentunnel site is awarded.

### **Glentunnel Site Update**

- Construction at Glentunnel has faced a number of challenges during construction. Site was impacted badly during July and August Flood Events in 2017, which led to construction being put on hold and redesign of site layout.
- Construction onsite recommenced in December 2017. Works were progressing to schedule and site construction was approaching practical completion stages when it was hit by another flood event in December 2018.
- SDC is currently working with consultants and contractors to design appropriate repairs to site, and perform river works which will repair some of the damage to the river from flooding also reinstate site to pre July 2017 flood levels. This is packaged under **flood repair works**;
- There is a separate package under **flood protection works** that would need additional budgets and scoping. This will involve construction of groynes and other structures that will attenuate the flows to intake and provide additional level of asset protection. See **attached** sketches;
- The flood repair works is staged to be complete by May 2018 and flood protection is planned for the next financial year;
- The **works plan** for these packages of works were provided to ECAN;
- Noting the incoming seasonal wet weather period and in the absence of river modelling data for this area, SDC has directed engineer's representative to raise adjacent bank levels in line with bank levels at the intake. This is what we believe the site profile was before the flood event in July 2017; and
- Proposed timeline to have this works completed at this stage is the end of May 2018.

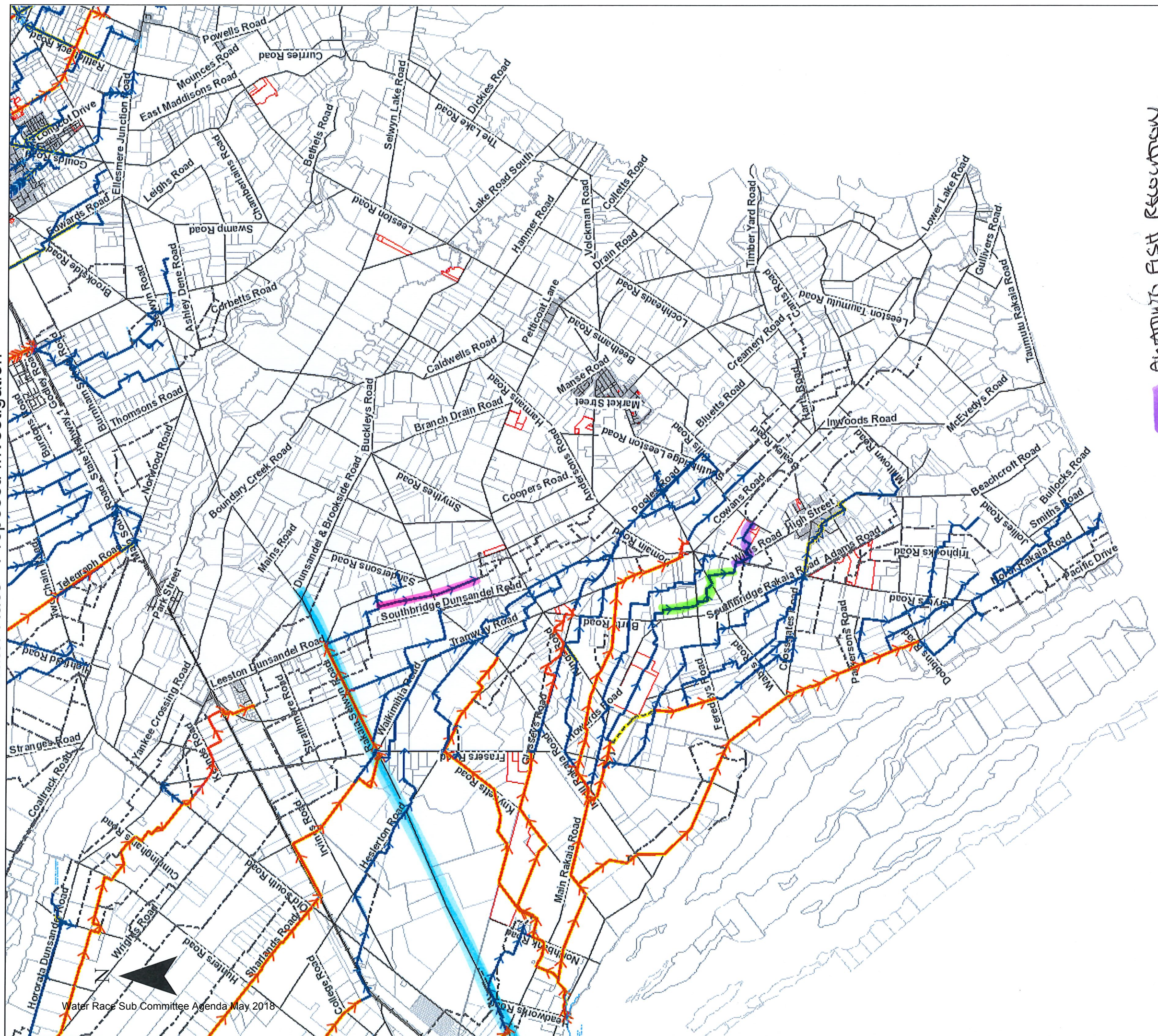


**Attachment 1 – Site Sketch**





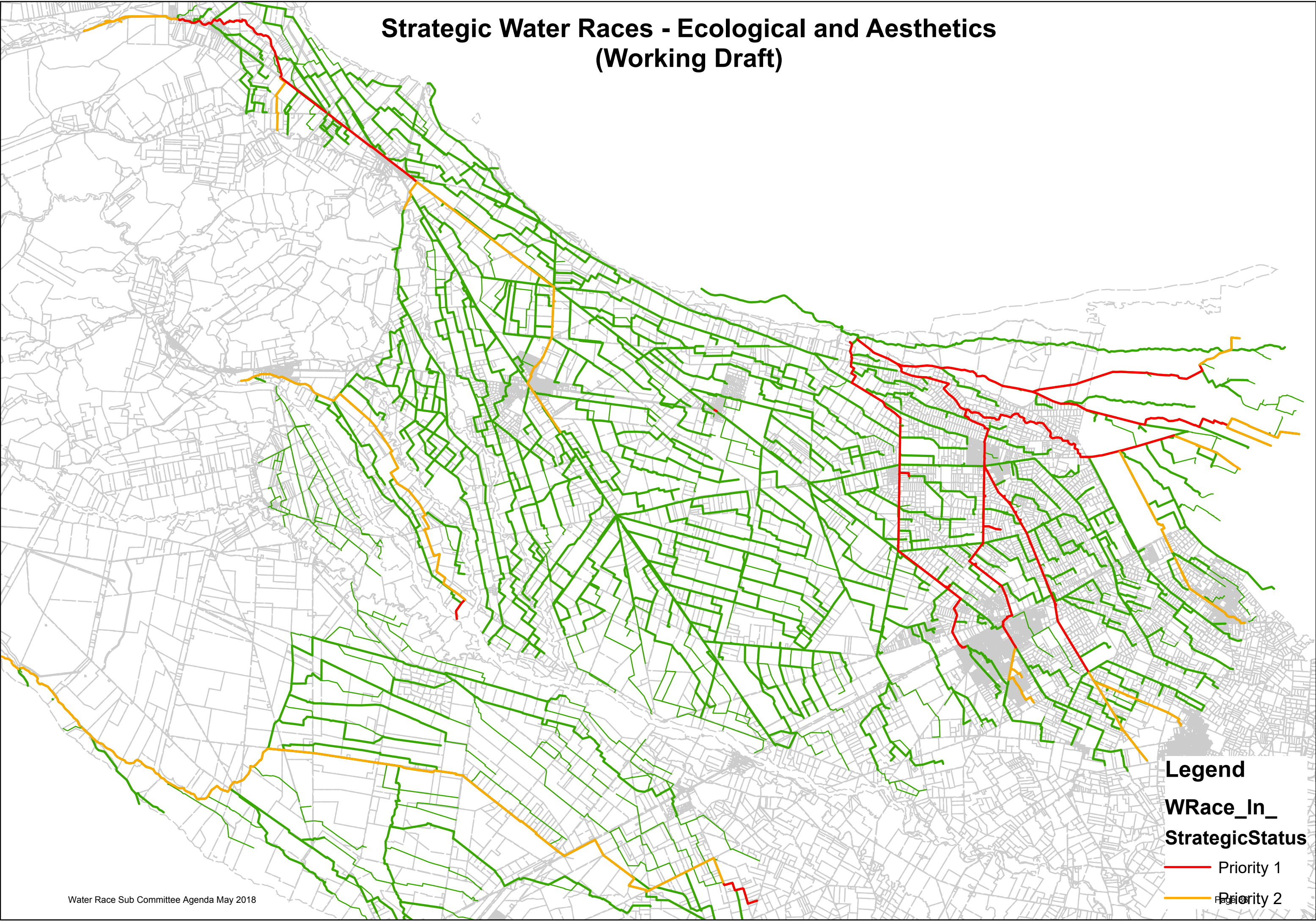
# Water Race - Proposed Investigation



- AWAITING FISH RECOVERY
- COUNCIL MEETING 14 MARCH 2018  
FURTHER INVESTIGATION REQUIRED.
- PROPOSED CLOSURE POST  
CONSTRUCTION.
- INVESTIGATE BELOW LINE?



Strategic Water Races - Ecological and Aesthetics  
(Working Draft)



**Legend**

**WRace\_In\_**  
**StrategicStatus**

— Priority 1

— Priority 2



## REPORT

**TO:** Chief Executive  
**FOR:** Water Race Sub Committee Meeting – 14 May 2018  
**FROM:** Surface Water Engineer  
**CC:** Corporate Services Manager  
**DATE:** 07 May 2018  
**SUBJECT:** **Proposed Water Race Closures To Proceed to Public Consultation**

---

### 1. RECOMMENDATION

#### **That the Sub-Committee:**

- a) *Agree to proceed to public consultation for the proposed closure of 2 Lengths of water races totalling approximately 8.2 km in the Malvern and Paparua water race schemes.*
- b) *Advise the Council that the proposed closures are considered to be of low significance not impacting the intended level of service provision for the Paparua and Malvern water race schemes.*

### 2. PURPOSE

Seek approval from the Sub-Committee to proceed to public consultation for the following proposed water race closures:

#### **Paparua**

- 1. Closure of 460.7 m of race through 3 properties between Manion Road and State Highway 1
  - a. In support of CSM2 NZTA project.

#### **Malvern**

- 1. Closure of 7752 m of race through 7 properties between Beattys Road and Bealey Road

### 3. SIGNIFICANCE ASSESSMENT/COMPLIANCE STATEMENT

Explicit provision has been made in the 2015/25 LTP for water race closures<sup>1</sup> initiated by rate payers and proactive closure of the Haldon and downstream races by Council. The LTP has identified the following as major projects:

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<sup>1</sup> LGA 2002 S 97 (2) a

- Proactively progress the closure of the Haldon water race intake (within the Ellesmere Water Race Scheme) including the down gradient race network which is supplied by this intake. Targeted Stream Augmentation will possibly be taken into account with some lengths of races remaining open to convey this flow.
- Progress ratepayer initiated water race closures once approved by the Water Race Committee for closure.
- Work with Central Plains Water to develop a concept for converting the Kowai River sourced water race network (part of the Malvern Water Race Scheme) into a combined water race and irrigation network. This concept will then be used for further consultation with the community.
- Work with Environment Canterbury and key stakeholders to realise opportunities to use consented stock water for environmental enhancement including targeted stream augmentation.
- To investigate options for integration of the stock water races with Central Plains Water.

Council's Significance and Engagement Policy, reflecting section 5 of the Local Government Act 2002, states that:

Significance should be assessed in terms of consequences for:

- The district or region
- Any persons who are likely to be particularly affected by or interested in the proposal, decision or matter
- The capacity of the local authority to perform its role, and the financial and other costs of doing so.

The Significance and Engagement Policy also sets out criteria for assessing significance which are applied in section 3.1 below.

The 2015/25 LTP identifies Water Races as a strategic asset. Strategic assets are assets or groups of assets that the local authority needs to retain to maintain its capacity to achieve or promote any outcome that is important to the current or future wellbeing of the community.

The LTP states that the level of significance of a decision will determine the process used by the decision maker considering Council's commitment to constructive community engagement. An assessment of significance has been included below for the Committee's discussion and recommendation.

### **3.1 Decision Making Considerations**

The proposed water race closures outlined in this report have been considered against the criteria for assessing significance from the Significance and Engagement Policy contained in the LTP 2015/25 (see page 213-214 of the LTP):

#### **Policy and Outcomes**

Council has indicated its intention to progress rate payer initiated water race closures. The proposed closures are not known to conflict with other Council policies or strategies



The following community outcomes are considered relevant to proposed water race closures:

**Table 3.1 – Community Outcomes**

<b>Community Outcome</b>	<b>Level of Support</b>
A living environment where the rural theme of Selwyn is maintained	Rural land use is changing. The proposed water race closures are being driven by the Community in line with their changing needs, therefore water race closures support this community outcome.
Selwyn has a strong economy which fits within and complements the environmental, social and cultural environment of the District.	Council seeks to support existing agriculture and other land based sectors. Ceasing to operate inefficient and ineffective assets that are no longer required by the Community supports the local economy.

- Closing water races that are no longer required by the community provides commercial and economic benefit to the rural communities of the District and reflects the changing needs of these communities.
- Closing water races can represent a cost saving to Council and rate payers. This is discussed further in section 12.
- There are no known impacts on Council's capacity to undertake its statutory responsibilities.
- There are no known inconsistencies with any existing policy, plan or legislation. The role of water races in maintaining a living environment where the rural theme of the District is maintained, has been recognised in the LTP. Providing an effective water race service and delivering levels of service is a key part of delivering community outcomes. Where a race cannot be supplied due to consent limits at the intakes or operational issues and leakage, maintaining channels that are not used or that have intermittent flow is counter to achieving this objective.

### **Communities**

- The number of property owners affected by each closure is detailed in table 4.1. Consultation to the wider community will occur along with notification of key stakeholders include Department of Conservation, Fish and Game, Environment Canterbury and Ngāi Tahu.
- Affected persons are directly consulted on all water race closures. These include rated and non-rated properties that have a water race on or adjacent to their property. Where a closure has attracted 100% support from directly affected property owner, the closure is considered to be of low significance.
- Following approval by the Water Race Sub Committee, public advertisement of the proposed closures will occur.
- Council are considering the ecological impact of race closures by facilitating fish salvage where appropriate.

- It is not expected that proposed water race closures will generate wider national or international interest.

### **Ngāi Tahu**

- See section 7.3 of this report.

### **Context and Implications**

- An assessment of the options considered as alternatives to water race closure is included in section 6 of this report.
- The proposed water race closures are not expected to have any unintended consequences for community interests. The environmental, social and cultural impacts of the closures have been considered as outlined below:
  1. Cultural interests – the race closures proposed are not considered to impact the character of the District they are often on private land and exist extensively in other parts of the District. Potential implications for Ngāi Tahu (only as identified at this early pre-consultation stage) are discussed in section 7.3.
  2. Social interests – water races on private property are not considered to provide amenity value to the wider community and their closure is therefore not considered significant. Race closures on the roadside may have some visual impact in areas with high amenity. Under Council's process, for a rate payer initiated race closure to proceed, all affected property owners (those with a race on or adjacent to their property regardless of whether they are rated for stock water) are consulted and approval is required for closure to be progressed. Further public submissions are invited from the wider community.
  3. Economic interests – the proposed race closures will have no identifiable economic impact on the wider Selwyn District. Council and rate payers will benefit from operational and capital cost savings and Council will monitor the cumulative impact on rate revenue reduction which is discussed further in section 12.
  4. Quality of the Environment – opportunities for fish salvage will be provided in consultation with the Department of Conservation prior to any race closure. Closing ineffective and inefficient races provides environmental benefit as discussed further in section 7.
- The proposed water race closures are not considered to impact a scarce resource. The provision of water for stock can generally be provided from alternative sources.
- The proposed water race closures are considered as irreversible where they cross private property. Council do not hold easements for most water races and are unlikely to have the power to enforce reinstatement of water race channels on private property. However, stock water supply can generally be provided from other sources.
- By undertaking public consultation on the proposed water race closures, Council will establish whether the proposed closures are considered controversial.



- All water race closures will be progressed following appropriate consultation in a timely manner
- Closures that have attracted 100% support do not present uncertainty or lack of clarity for Council. Council initiated closures being progressed to consultation with 70% support or greater attract some degree of uncertainty. Greater certainty will be obtained during the consultation period.

The proposed water race closures represent the following loss to each of the schemes:

**Papara**

- Reduction in length of water races 0.05%
- Loss of targeted rates income 0.14%

**Malvern**

- Reduction in length of water races 2%
- Loss of targeted rates income 2%

While the Papara proposed closure is negligible percentage reductions when considered against the total length of water race, the Malvern proposed closure represents a low percentage in reduction of total length of closure. The loss of targeted rates income is also considered low, and as detailed in section 12, closure of these races have minimal impact on operational costs.

Based on the above assessment, it is recommend that the proposed closures are considered of **low significance**. The level of significance impacts the degree of consultation undertaken on the engagement spectrum. Council takes a conservative approach to consultation.

#### 4. HISTORY/BACKGROUND

##### 4.1 Proposed Closures Recommended for Progression

Council has received requests for closure of the following races.

**Table 4.1 – Proposed Water Race Closures Recommended for Approval to Progress to Public Consultation**

Ref	Scheme	Received from	Road Name	Number of affected Props	Approx KM Race	Progress
1	Paparua	MacLee Holdings Ltd	Manions Rd	3	460.7	This closure is in support of the NZTA CSM2 project. The lateral will be redirected from a Main on the east side of Main South Road (SHW 1).
2	Malvern	Catherwood	Coaltrack Rd	7	7752	The Waikirikiri Farm Partners Ltd have moved their race and still wish to close the race due to a farm dairy conversion. This application was discussed in the previous Water Race (Feb 18) committee.
<b>TOTAL</b>				<b>10</b>	<b>8212.7</b>	

Appended to this report (Appendix A) are maps showing the location of the above sections of race proposed for closure.

## 5. PROPOSAL

Approval to proceed to public consultation for the following proposed closures once all signed agreement forms have been received:

1. Closure of 460.7 m of race through 3 properties between Manion Road and State Highway 1 (MacLee Holdings Ltd)
2. Closure of 7752 m of race through 7 properties between Beattys Road and Bealey Road (Dough Catherwood)

## 6. OPTIONS

Where a request for water race closure is received, there are a number of potential options available to Council.

**Table 6.0 – Alternative Options Considered**

Option	Details	Advantage	Disadvantage
<b>1. Water race closure</b>	Race closure with the agreement of all affected land owners (rate payers on the race or directly adjacent to the race), subject to public consultation and reasoned consideration and response to issues raised during consultation.	Objective is achieved and wishes of rate payers considered.	Loss of rating income. Ecological values of races not maintained.
<b>2. Piping of water race</b>	Piping can be considered if downstream property owners wish to maintain supply. Piping to be funded by each landowner. Piping a water race will not maintain the ecological value of an open water race channel.	Supply to downstream property owners maintained.	Landowners responsible for maintenance of pipes with potential upstream impacts if not maintained. Higher cost to land owners. Ecological values of races not maintained.
<b>3. Race relocation</b>	Relocation could be considered if downstream property owners wish to maintain supply for stock water purposes. Costs to be met by landowners.	Rating income retained.	Unlikely to achieve benefits of race closure required by land owners. Potential impacts on adjacent land owners. Cost to land owners.
<b>4. Race retained</b>	Do nothing races retained.	Rating income retained.	Needs of rate payers requesting closure not met.
<b>5. Onsite alternatives</b>	On site alternatives e.g. a well, could be considered if land owners wish to	Stock water supply retained.	High cost to property owners for installation



Option	Details	Advantage	Disadvantage
	retain a stock water service.		and ongoing maintenance. Ecological and other race values not retained.

These options are alternatives to closure of an open race if a downstream landowner requires a stock water supply to continue. Water race closures will only occur for short lengths of race (excluding whole or major part of scheme closures) if 100% support from affected land owners is obtained.

## **7. VIEWS OF THOSE AFFECTED/CONSULTATION**

### **7.1 Views of those affected**

The Local Government Act 2002 section 82 requires consultation with persons affected by or have an interest in a decision. They must also be provided with a reasonable opportunity to present their views to the Local Authority.

The level of significance of a proposed water race closure will inform the level of consultation undertaken. The LTP outlines an engagement spectrum which ranges from informing the community to empowering the community.

Significant closures are required to be provided for the LTP. Rate payer initiated closures and closure of the Haldon and down gradient races has been provided for the 2015/25 LTP.

For an individual race closure to be progressed, the Council's water race closure process requires that the initiator of the water race closure request obtain agreement from all affected property owners and provide Council with a 'Agreement to Close Water Race' form signed by all affected property owners.

Where a proposed closure has 100% support from affected land owners, the closure is likely to be of low significance; therefore, the inform/consult end of the engagement spectrum is considered appropriate. An affected property owner has been deemed to be those with a race on or adjacent to the property, regardless of whether the property is rated.

Once unanimous support is obtained from land owners, the closure request can proceed to public notification and the water closure request is publicly notified. If interested parties wish to present their views there will be an opportunity at the Water Race Committee meeting every quarter. Should objections to an advertised closure be received, the hearing panel will consider the objection and its relevance to stock water supply and pass recommendation to the Water Race Sub-Committee to consider as part of their decision making.

Where a proposed water race closure has attracted 100% support and no further objections are received, the Sub-Committee will progress the closure once approved by Council. For Council initiated closures or strategic closures, Council's process requires 70% support to be gained for proposed closures to progress to public consultation.

## **7.2 Interested Parties Consultation**

To allow any parties with an interest in water race closures to input into the process as required by S 82 (1 (a)) of the LGA, all race closures will be publically advertised for a minimum of 2 weeks in Council Call and on the Council website. Maps of proposed water race closures will be available to view at Council or on the website. A summary of the proposed water race closures is made available on the Council website.

A letter will be sent to all directly affected property owners to notify them that the proposed closure has been approved to progress to public consultation.

Specific stakeholders identified as Department of Conservation, Fish and Game, Historic Places Trust (specifically where structures e.g. headworks are involved) and Ngāi Tahu will be directly provided with a copy of the above advertisement.

Should any parties wish to present their views on the advertised closures, an opportunity will be provided at the Water Race Sub Committee meeting prior to approval being considered by the Committee.

A recommendation to Council has been made to delegate powers to hear submissions to the Water Race Sub Committee and make recommendation on the significance of water race closures and agree closures not deemed significant.

Minutes from the Water Race Subcommittee meetings are available for public viewing on Council's website.

A public hearing will only occur if persons wish to be heard. Hearing are only expected to be required for significant closures or those progressing with 70% support. Any objections to race closures on grounds other than stock water supply will be considered during public hearing (if applicable) and the hearing decision confirmed by the Water Race sub-committee. Consideration will need to be given to whether objectors are stock water rate payers and directly or indirectly affected. Should a race be retained for reasons other than stock water supply a different rating mechanism may be required.

Once approved by the sub-committee a public advert for the above listed closures will be placed.

Letters will also be sent to the following key stakeholders informing them of the proposed closures and providing a copy of the above advert.

- MKT & Te Taumutu Runanga
- Department of Conservation
- Fish and Game
- Fire and Emergency

## **7.3 Māori implications**

The entire Selwyn district lies within the rohe of Ngāi Tahu. The importance of Ngāi Tahu is recorded in the Council's Significance and Engagement Policy (section 6).



Te Rūnanga O Ngāi Tahu Freshwater Policy recognises the importance of providing a stock water supply to communities. This principal is considered alongside a number of others which seek to protect the environment and its inhabitants. By proposing the closure of ineffective, inefficient and no longer required water race assets, Council is proposing to better balance the needs of rate payers, Iwi and the environment.

*Mahaanui*, The Iwi Management Plan (IMP) 2013, recognises the importance of the water race network and states that they should be managed as waterways. In support of these principals Council require that heavy stock (deer and cattle) is fenced from entering the water races and provides advice to landowners on how to provide stock access to drink without entering the channel.

In support of the principles outlined in the (IMP) and per the Regional Councils direction, the Council have installed fish screens at the Paparua, Upper Kowai, Glentunnel (Selwyn River), Waimakariri and Lower and Upper (Terrace Lea) Rakaia intakes.

At the time of advertising closures, details of the proposed closure are provided to Ngāi Tahu via MKT. It should be noted that in general water races requested for closure are often tail end races (lateral races) where excess water is disposed of to ground. Where a water race feeds another water course further consideration will be given to impacts on that waterway.

#### **7.4 Ecological Considerations**

The Canterbury Water, Selwyn Wahiora Zone Implementation Programme acknowledges that Council are reviewing the operation of the stock water race network and seeking opportunities for rationalisation while managing some races for biodiversity and community values.

The Implementation Plan supports race rationalisation and recognises the importance of reliable stock water supplies while identifying opportunities for supporting an aquatic corridor from mountains to sea via water races and creating wetlands at discharge to ground locations.

*Mahaanui*, the Iwi Management Plan 2013 recognises the importance of the water race network for biodiversity and habitat for native freshwater fish. Upon guidance from a suitably qualified ecologist, a fish salvage and relocation program will be provided to DoC and Fish and Game prior to a water race closure.

EOS Ecology undertook an assessment of sites of high ecological value within the Ellesmere and Malvern Water Race schemes in 2011. A copy of the findings of the assessment is included in Appendix C. There is no specific ecological assessment report for the Paparua Water Race scheme; however, the Council has assessed ecological significance which is identified in the Councils GIS system. All proposed sites are not within an area of ecological significance.

DOC have indicated that in general terms if a race has been dry for a period of time, low levels of aquatic life are expected to be present and limited to isolated pools.

In a memo to Council dated 6 July 15 which can be found in Appendix B, DOC have indicated that the level of input from DOC may need to be prioritised based on

predicted distribution of threatened species and external contractors may need to be used. DOC may provide guidance to Council and Contractors on the process the suitable sites for relocation.

Where DOC staff are not available to undertake fish salvage and it is deemed necessary, consulting companies exist that are equipped to undertake electrofishing, however this may attract significant cost. The Agreement to Close Water Race form states that the benefiting property owners are liable for their share of the costs associated with the closure. To date this has been the cost of installing a soak hole at approximately \$3,000.

On the 28<sup>th</sup> February 2018 the Water Race Committee adapted the *Strategic Water Races- Ecological and Aesthetics* map which is in Appendix E. The proposed water races for closure are not a Priority Water Race.

## **8. RELEVANT POLICY/PLANS**

- Council Policy W107 Closure of Water Races
- Significance and Engagement Policy
- Water Race Closure Process (APPENDIX D)

## **9. COMMUNITY OUTCOMES**

See section 3.1 above.

## **10. NEGATIVE IMPACTS**

Negative impacts or effects will be considered as part of the race closure approvals process and closures will only proceed if negative effects are mitigated or minimised and affected land owners agree.

## **11. LEGAL IMPLICATIONS**

The recommendation complies with the requirements in the Local Government Act 2002 and the Council's policies and internal procedures.

## 12. FUNDING IMPLICATIONS

### 12.1 Rating Impact

The proposed race closures detailed in this report are expected to have the following impact on rating income:

**Table 12.1 – Funding Implications of Proposed Race Closures**

Ref	Scheme	Received from	Road Name	Loss of Targeted Rating Income	Percentage of Total Rating Income
1	Paparua	MacLee Holdings Ltd	Manion Rd	\$ 786.00	0.14%
2	Malvern	Catherwood	Coaltrack Rd	\$ 15,639.69	1.67%

The cumulative impact of closures will continue to be considered as more closure requests are received. Rates are reviewed and adjusted at each annual plan and long term plan rating review.

### 12.2 Cost Savings

Closures to date have typically been short lengths of lateral water race that are maintained by the property owners. Closure of these races have minimal impact on operational costs.

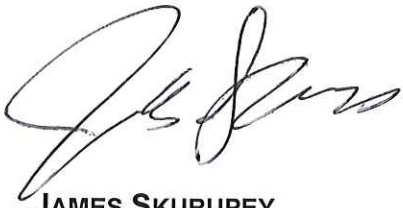
### 12.3 Closure Costs

The cost of any rate payer requested closures will be met by the benefiting property owners. The Committee should discuss the costs of fish salvage.

## 13. HAS THE INPUT/IMPACT FROM/ON OTHER DEPARTMENTS BEEN CONSIDERED?

A copy of this report has been provided to the Corporate Services Manager as income accounts will be affected.





**JAMES SKURUPEY**  
**SURFACE WATER ENGINEER**



**MURRAY ENGLAND**  
**ASSET MANAGER, WATER SERVICES**

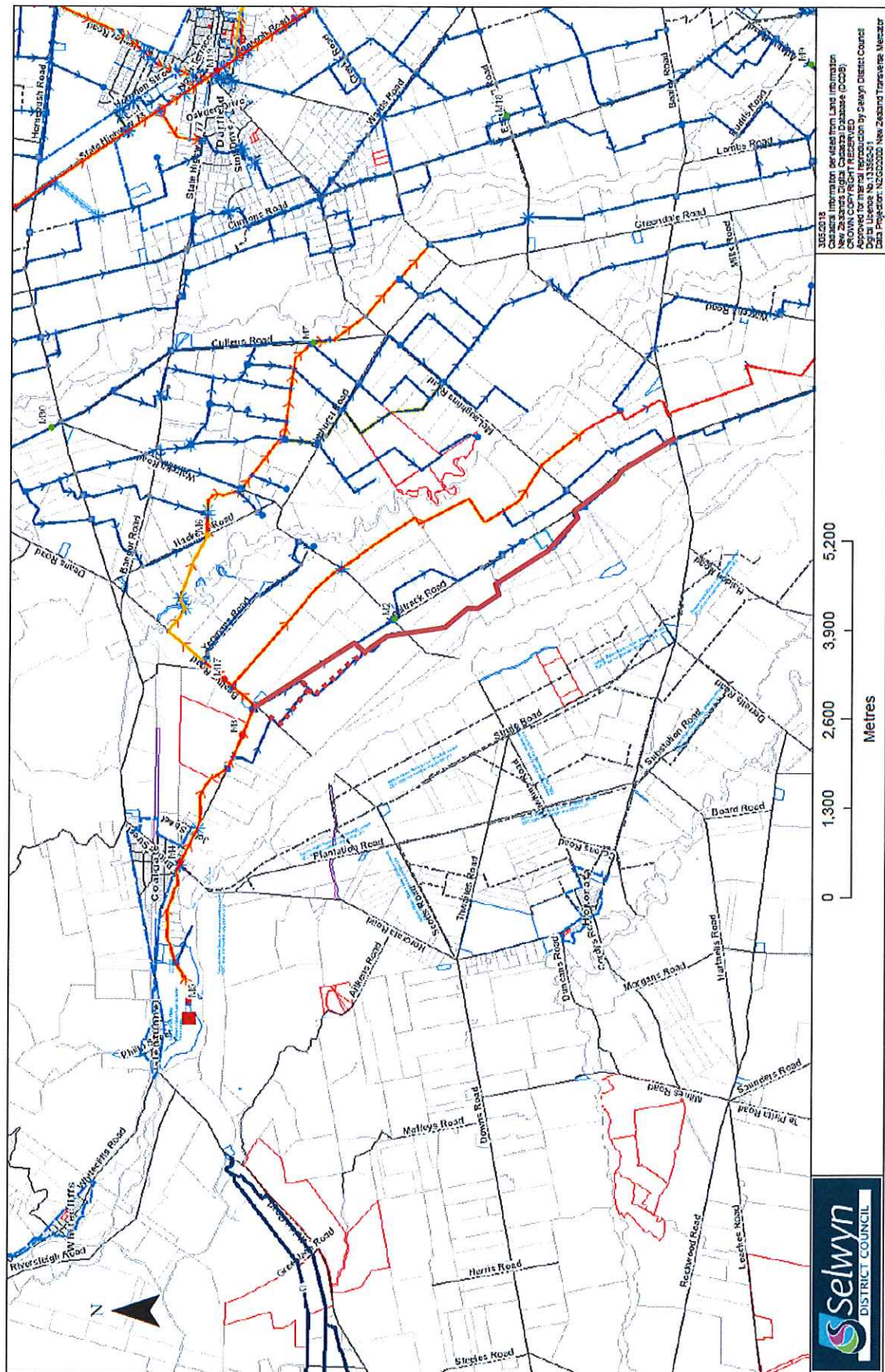
**ENDORSED FOR AGENDA**



**MURRAY WASHINGTON, ASSET MANAGER**

# APPENDIX A – WATER RACE MAPS PROPOSED CLOSURE

Catherwood Closure 2422006101

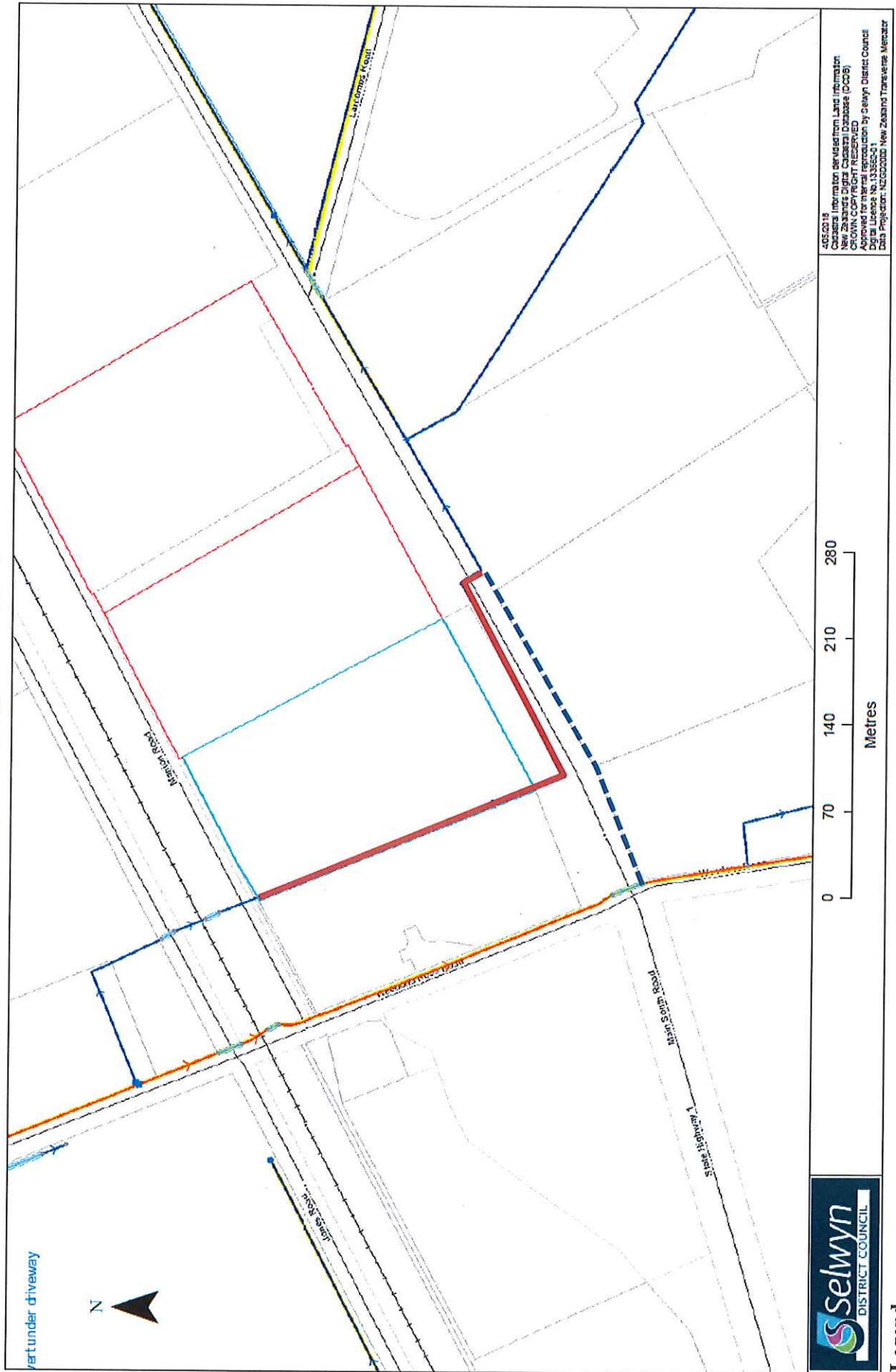


## Legend

— Proposed Closure west site of Coaltrack Road

..... Currently Moved WR

# MacLee Holdings Ltd Closure





## APPENDIX B – MEMO FROM DEPARTMENT OF CONSERVATION



Department of  
Conservation  
*Te Papa Atawhai*

**Date:** 6 July 2015

**To:** Jo Golden – Water Services Engineer – Selwyn District Council

**CC:** Murray England – Asset Manager – Water Services – Selwyn District Council  
Anita Spencer – Biodiversity Ranger, Conservation Services, Mahaanui District, Department of Conservation  
Rosemary Miller – Freshwater Manager, Science & Capability Group, National Office, Department of Conservation

**From:** Nicholas Dunn – Freshwater Science Advisor, Science & Capability Group, National Office, Department of Conservation

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**Memo:** Notes from fish salvage from the Selwyn District Council stockwater race below Crossgates Road prior to closure

---

This memo describes the freshwater fish salvage conducted by Department of Conservation staff in the Selwyn District Council stockwater race below Crossgates Road, Southbridge, and considerations for future salvage operations.

### Crossgates Road salvage

Fish salvage was conducted on 11 and 12 May 2015 in 2.3 kms of stockwater race below Crossgates Road in the Ellesmere scheme. Below this, 730 m until the end of the water was not considered fish habitat. A further 1.96 km of race below this again was dry. The salvage followed recognisance visits on 19 November 2014 and 30 April 2015.

A total of 225 upland bully (*Gobiomorphus breviceps*) and 2 longfin eel (*Anguilla dieffenbachii*) were captured over the two day period, being relocated to a section of race on North Rakaia Road near the intake from the Rakaia River.

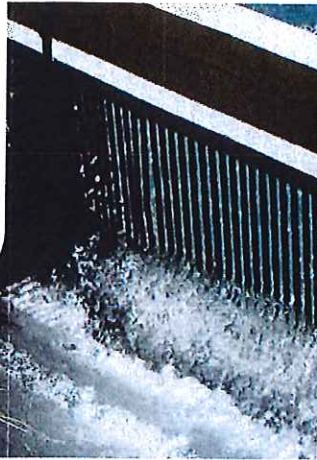
### Future salvage

Observations during the current salvage could be used to guide future salvages:

- Three staff members took part in the salvage each day. This level of input needs to be prioritised against other biodiversity work. Future salvages may need to be guided by DOC staff, but be undertaken by external contractors.
- Dependant on the location of the race closure, the level of input from DOC may need to be prioritised by the known or predicted distribution of species based on their conservation status under the New Zealand Threat Classification System.
- Having the water race ranger on site during recognisance visits is beneficial. This allows identification of sections of race that have previously dried or had low water levels, or lack bankside vegetation and instream macrophytes, and thus likely represent low quality fish habitat.

**APPENDIX C – EOS ECOLOGY, SITES OF HIGH ECOLOGICAL VALUE – 2011.**

*Attached separately*



## Malvern Water Race Scheme – Sites of High Ecological Value

Phase 1: Desktop Review

Phase 2: Habitat Classification

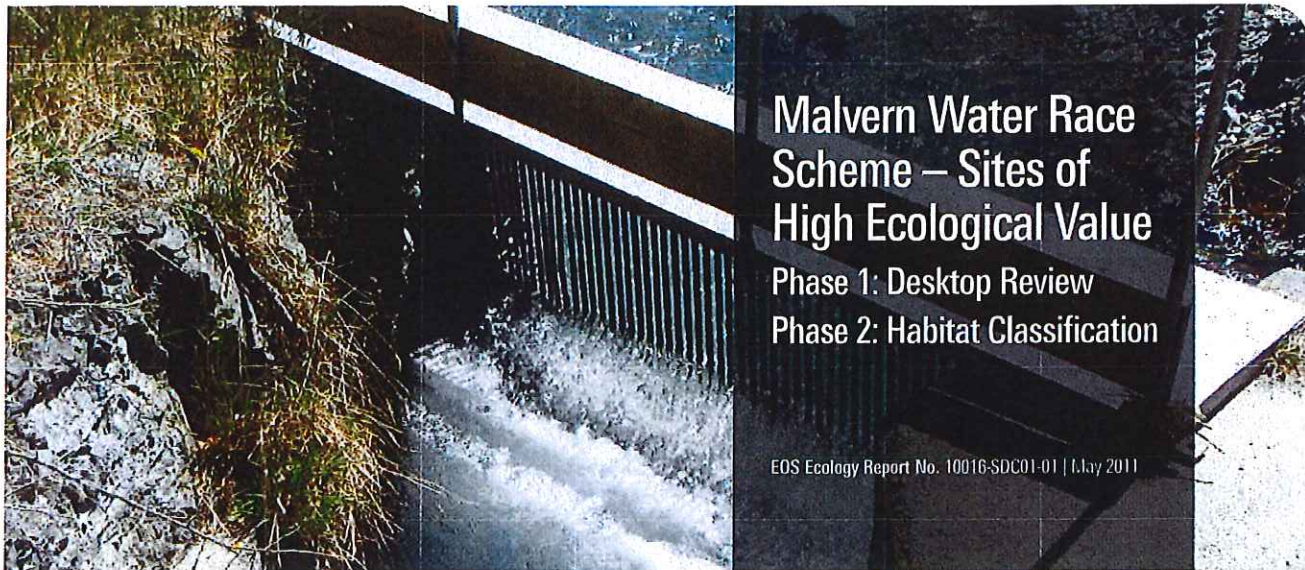
EOS Ecology Report No. 10016-SDC01-01 | May 2011



AQUATIC RESEARCH  
CONSULTANTS







# Malvern Water Race Scheme – Sites of High Ecological Value

Phase 1: Desktop Review

Phase 2: Habitat Classification

EOS Ecology Report No. 10016-SDC01-01 | May 2011

## REPORT

Prepared for  
Selwyn District Council

Prepared by EOS Ecology  
Alex James

Reviewed by  
Shelley McMurtrie





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## EXECUTIVE SUMMARY

The Selwyn District Council (SDC) operates the Malvern Water Race Scheme (MWRS) under a series of resource consents (CRC012002, CRC012003, and CRC012004) that have a common requirement to compile a management plan that includes:

- » A description of known sites with high natural or ecological values;
- » Methods and procedures for ensuring that management activities avoid, remedy or mitigate adverse effects on sections of the race system known to have high natural or ecological values; and
- » A focused sampling programme to identify important places, habitats and species. Once identified, these natural or ecologically valuable locations will be included in an appendix to the management plan, and provided race operation for stock water use is not compromised, the management plan will be amended to provide for their protection.

EOS Ecology was contracted by the SDC to begin a process to fulfil these requirements by conducting a desktop review of existing information and performing a habitat classification to ascertain the instream and riparian habitat variability of the MWRS to better inform where the more focussed sampling programme should be undertaken.

The desktop review of existing ecological and natural values within the area of the MWRS concluded that there was an overall lack of information on such values and no known formally confirmed sites with such values. Canterbury mudfish (*Neochanna burrowsius*) have been found at a site within the MWRS (not a SDC-maintained section) highlighting that this species with a “nationally critical” threat classification could be present at other locations in the network. Additionally, the recently closed and adjacent Coalgate water race scheme had Canterbury mudfish, freshwater crayfish, and freshwater mussels thus there is no reason these species are not present in the MWRS.

To classify the habitats of the MWRS we developed a rapid instream and riparian habitat assessment protocol and visited 225 sites through the SDC-maintained sections of the water race scheme to quantify habitat variability. This has enabled us to design a streamlined field survey program to target those areas of the network that are most likely to have places, habitats, or species of high natural or ecological value. In the course of this work we have also identified some sites that are potentially of high value based on the diversity and abundance of native riparian vegetation, the aquatic invertebrate community (where there is existing data), or the presence of instream habitat suitable for particular species (e.g., mudfish, freshwater mussels).

To fulfil SDC’s consent conditions, the next stage of the project would involve a targeted field survey and outputs describing sites of high natural and ecological value, and methods to ensure management activities protect those values as far as is practicable while still maintaining the primary stock watering function of the MWRS.

## 1 INTRODUCTION

### 1.1 Background

The Malvern Water Race Scheme (MWRS) covers an area on the Canterbury Plains between the Waimakariri River in the north, Selwyn River in the south, Springfield and Glentunnel/Coalgate in the west and the edge of the Paparua Water Race Scheme in the East (Figure 1). The Selwyn District Council (SDC) operates the MWRS under a series of resource consents (CRC012002, CRC012003, CRC012004) that have a common requirement to compile a management plan that addresses the following ecological/natural components:

- (g) A description of known sites with high natural or ecological values;
- (h) Methods and procedures for ensuring that management activities, particularly those carried out under (d), (e), and (f), avoid, remedy, or mitigate adverse effects on sections of the race system known to have high natural or ecological values.
- (k) Ecological investigations required. A major study of the full length of every race is not required. A focused sampling programme is required to identify important places, habitats and species. Once identified, new places or sections of races of ecological value will be included in an appendix to the management plan, and provided race operation for stockwater use is not compromised, the management plan will be amended to provide for their protection.

The MWRS network is vast with the SDC-maintained parts comprising many tens of kms of water race. It would be time consuming and costly to perform a detailed survey of the entire length of even the SDC-maintained sections of the network. Thus EOS Ecology has been contracted by SDC to begin a process to fulfil these requirements by conducting a desktop review of existing information and performing a habitat classification to ascertain the instream and riparian habitat variability of the MWRS to better inform where a future field survey should be focused. This work focuses on only those sections of the race network that are maintained by SDC. These are generally the main feeder races and some of the larger lateral races.

This report is the first step in identifying sites of high natural or ecological value within the MWRS. While some sites that are likely to be classified as having such value were identified, a field survey of these and other potential sites is still required before a full list of such sites can be confirmed and compiled. Once the field survey is completed and a list of sites compiled then management options to maintain these natural or ecological values can be developed.

### 1.2 Defining high natural or ecological values

To enable the identification of sites of high natural or ecological values we must first have some unbiased method of determining such values. The designation of a particular location or site as being of high natural or ecological value will preferably be based on a pre-existing standard of biodiversity importance. Such standards are lacking for water race environments which are generally in areas that have undergone significant human-induced change and are considered overall to be of low natural or ecological value by many people. Where such standards are lacking it is necessary to estimate value based on particular criteria (Table 1).



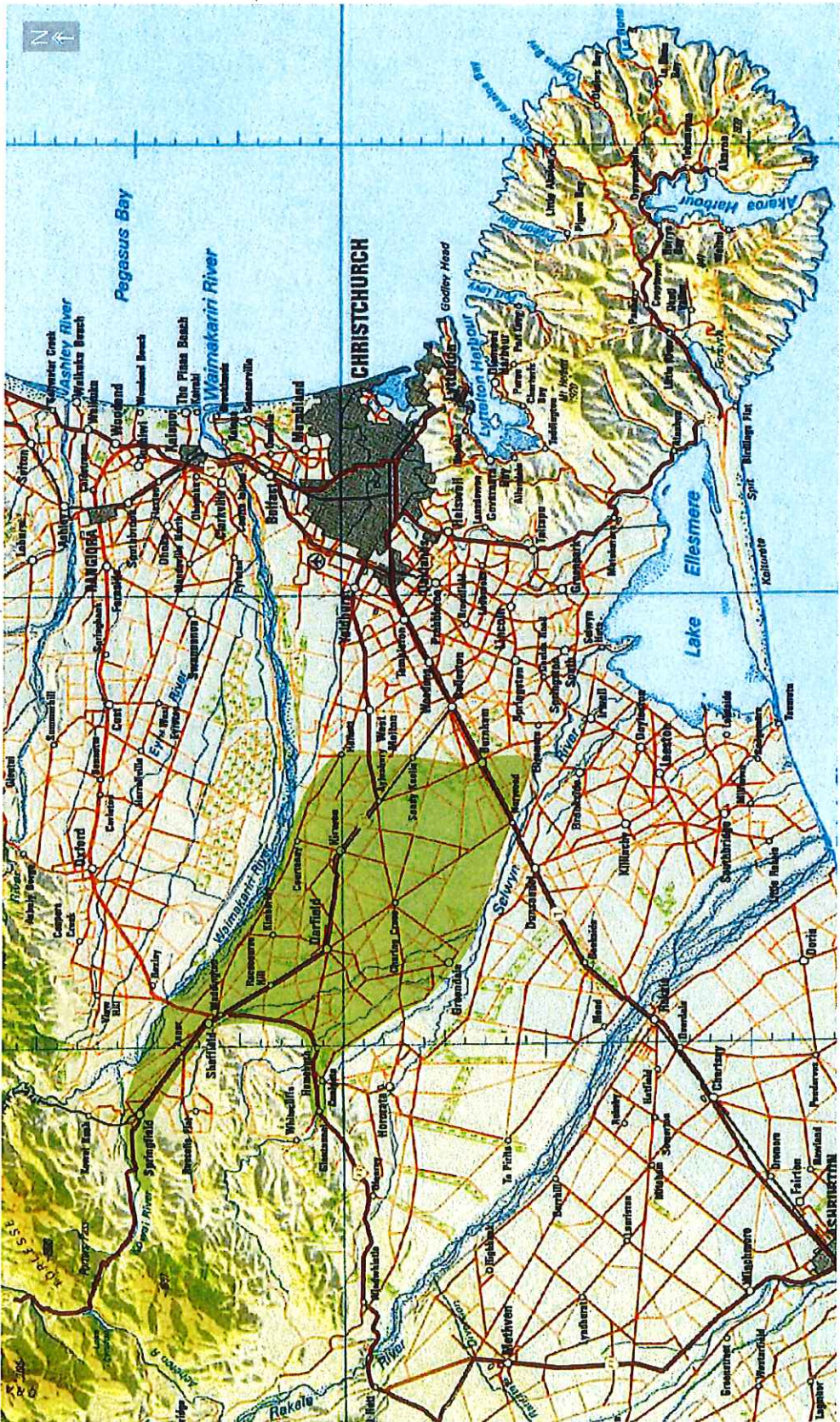


FIGURE 1 Area of the Malvern Water Race Scheme on the Canterbury Plains (shaded green).



TABLE 1. Potential criteria for assigning natural or ecological value to sites (adapted from ANZECC, 1998 and EIANZ, 2010). The criteria (and details) that are most relevant to the Malvern Water Race Scheme are italicised.

Criteria	Details
Representativeness	Does the site represent a substantial proportion of one or more ecosystems within a bioregion and to what degree?
<i>Ecological Importance</i>	Does the site: <ul style="list-style-type: none"> <li>» <i>contribute to the maintenance of essential ecological processes or life-support systems;</i></li> <li>» <i>contain habitat for rare or endangered species;</i></li> <li>» <i>preserve genetic diversity (i.e., is diverse or abundant in species);</i></li> <li>» <i>contain areas on which species or other systems are dependent (e.g., contain nursery areas or feeding, breeding, or resting areas for migratory species); or</i></li> <li>» <i>contain a substantial part of a landscape that is a biologically functional, self-sustaining ecological unit?</i></li> </ul>
<i>Importance</i>	<i>Is the site rated or have the potential to be listed as being of international, national, regional, or local importance?</i>
<i>Uniqueness</i>	Does the site: <ul style="list-style-type: none"> <li>» <i>contain unique species, populations, communities, or ecosystems; or</i></li> <li>» <i>contain unique or unusual geographic features?</i></li> </ul>
Productivity	Do the species, populations, or communities of the site have a high natural productivity?
Vulnerability	Are the ecosystems and/or communities vulnerable to natural processes?
Biogeographic importance	Does the site capture important biogeographic qualities?
Naturalness	How much has the site been protected from, or not been subjected to human-induced change?

The requirement of the MWRS resource consents held by the SDC to describe known and find other sites with high 'natural' values is somewhat odd. 'Natural' in the context of ecology typically refers to the extent to which a thing (e.g., a landscape, a site, a behaviour) has been protected from, or has not been subjected to human-induced change. As the MWRS is an artificially created network of watercourses in a heavily modified agricultural landscape it can never have high natural values in this sense. However, as the MWRS has been operational for decades, numerous indigenous flora and fauna have colonised the system and some parts of the scheme will likely have high ecological values. Thus from here on, the term 'ecological values' will be referred to in this report.

Given the MRWS is essentially an artificial ecosystem, the most relevant criteria against which to consider the ecological values of sites are those relating to indigenous flora and fauna that have colonised the scheme since it was constructed (Table 1). These include riparian and aquatic plants, aquatic invertebrates, and fish.

### 1.3 Defining SDC-maintained sections of the MWRS

This investigation is limited to the SDC-maintained sections of the MWRS. EOS Ecology was supplied with a hardcopy map of the MWRS which highlighted those stretches of the scheme the SDC actively maintained. It was these maps that were used in the field to distinguish SDC-maintained sections from privately-maintained sections. SDC also supplied a range of GIS files from which EOS Ecology compiled

site maps. These files contain information on the MWRS section maintenance which was used on our site maps in this report. While the SDC-maintained and privately-maintained sections from the supplied hardcopies and SDC GIS information largely correspond, there were some reaches where they do not. There are therefore some errors in either the supplied hardcopies or the GIS information that are beyond EOS Ecology's control to rectify. We have deferred to the supplied hardcopies as these are what were used in the field during the habitat assessment to determine if sections were SDC-maintained or privately-maintained.

## 2 METHODS

### 2.1 Desktop review

To determine the extent of existing information on known or potential sites with high ecological value in the MWRS held by SDC key stakeholders, a desktop review was conducted. This involved inquiries with the Department of Conservation (DoC), Fish & Game, Ngai Tahu, and Environment Canterbury (ECan) as to any such information on the MWRS these entities may hold. GIS information held by SDC (e.g., significant natural areas, DoC information), the New Zealand Freshwater Fish Database (NZFFDB) data, and data held by EOS Ecology (e.g., Sinton, 2008) was also examined.

### 2.2 Habitat classification

#### 2.2.1 Rapid habitat classification system development

Initially, 24 sites throughout the MWRS were visited with the assistance of botanist Dr Colin Meurk with the aim of developing a rapid riparian vegetation and instream habitat quality categorisation system. These 24 sites were chosen in the field, so as to ensure coverage of most vegetation types within the scheme area. At each site an approximately 100 m reach was walked, with the structure and composition of the riparian vegetation being recorded. To quickly classify the instream habitat, substratum size, depth, and flow velocity were estimated over the same reach. From visiting these initial 24 sites, classifications of riparian vegetation and instream habitat were able to be derived (Tables 2 and 3). These were then used to rapidly classify the riparian and instream habitat at a further 201 sites through the SDC-maintained portion of the MWRS.

### 2.3 Data analysis

#### 2.3.1 Desktop review

The limited quantitative data available for the MWRS consisted of a MSc thesis on the ecology of freshwater communities of stock water races on the Canterbury Plains (Sinton, 2008). Data from this thesis was used to make some conclusions regarding habitat condition at the surveyed sites. Aquatic macroinvertebrates are used throughout New Zealand for biomonitoring and can provide a good indication of stream health (Boothroyd & Stark, 2000). Invertebrate data from Sinton (2008) were summarised by taxa richness and the abundance of common taxa. Biotic indices calculated were the Ephemeroptera-Plecoptera-Trichoptera taxa (EPT richness), % EPT, the Macroinvertebrate Community Index (MCI), and Quantitative Macroinvertebrate Community Index (QMCI). The paragraphs below provide explanation of these metrics.



TABLE 2. The riparian vegetation classification categories developed by Dr Colin Meurk for use in the Malvern Water Race Scheme during initial rapid habitat classification survey undertaken in October–November 2010. Classes A1–F1 are sites with an open canopy (<20% overhead cover) while classes A2–F2 are shaded sites (>20% overhead cover).

Class A: Scorched earth – >25% bare ground (including those planted with *Agapanthus* and other exotics).

A1: Scorched earth (open canopy)



Landsborough subdivision

A2: Scorched earth (shaded)



Old West Coast Rd – at Agriseeds

Class B: Dense weeds – of blackberry or kaffir lily, or ivy or sycamore and gorse.

B1: Dense weeds (open canopy)



Old West Coast Rd – between Cooks Rd & Ansors Rd

B2: Dense weeds (shaded)



Old West Coast Rd – No. 2256

Class C: Dense exotic grass – with minor native rushes and sedges (e.g., 25% cover of *Juncus edgarae*, *Eleocharis acuta*, *Carex* spp., *Pteridium esculentum* and/or *Blechnum minus*).

C1: Dense exotic grass (open canopy)



Kimberly Rd – at Homebush Rd intersection

C2: Dense exotic grass (shaded)



Creyke Rd – between Tramway Rd & Homebush Rd



Class D: Dense native rushes, sedges, or ferns – (e.g., 25% cover of *Juncus edgarae*, *Eleocharis acuta*, *Carex* spp., *Pteridium esculentum* and/or *Blechnum minus*).

D1: Dense native rushes, sedges, or ferns (open canopy)

D2: Dense native rushes, sedges, or ferns (shaded)



No such site found

Coal Track Rd – between Beattys Rd & Bridge St

Class E: Biodiverse rich – generally with >25% cover of *Juncus edgarae*, *Eleocharis acuta*, *Carex* spp., *Pteridium esculentum* and/or *Blechnum minus* but with larger quantities of *Blechnum minus* and other less common species such as *Blechnum penna-marina*, *Juncus planifolius* or *Histiopteris incisa* (total native plants >5).

E1: Biodiverse rich (open canopy)

E2: Biodiverse rich (shaded)

No such site found

No such site found

Class F: Densely planted native trees, shrubs and tussocks

F1: Densely planted native trees, shrubs and tussocks (open canopy)

F2: Densely planted native trees, shrubs and tussocks (shaded)



No such site found

Beattys Rd – between Coal Track Rd & Yeomans Rd



TABLE 3. The instream habitat classification categories developed by EOS Ecology for use in the Malvern Water Race Scheme during the initial rapid habitat assessment classification survey undertaken in October–November 2010. Classes G3–J3 have a coarse substratum dominated by cobble and gravel while classes G4–J4 have a soft substratum dominated by sand and mud.

Class G: Swift water velocity (approx.  $\geq 0.8$  m/s)

G3: Swift water velocity (coarse substratum)



Deans Rd – West Coast Rd intersection

G4: Swift water velocity (soft substratum)

No such habitat found

Class H: Moderate water velocity (approx. 0.2–0.79 m/s)

H3: Moderate water velocity (coarse substratum)



Hoskyns Rd – between Ansons Rd & Courtenay Rd

H4: Moderate water velocity (soft substratum)



Old West Coast Rd – Redmonds Rd intersection

Class I: Slow water velocity ( $< 0.2$  m/s)

I3: Slow water velocity (coarse substratum)



Old West Coast Rd – Waimakariri Intake channel

I4: Slow water velocity (soft substratum)



Pococks Rd – Domain Rd intersection



**Class J: No detectable water flow**

J3: No detectable water flow (coarse substratum)

J4: No detectable water flow (soft substratum)



No such habitat found

West Coast Rd – Sandy Knolls Rd intersection

**Taxa richness** is the number of different taxa identified in each sample. Taxa is generally a term for taxonomic groups, and in this case refers to the lowest level of classification that was obtained during the study. Taxa richness can be used as an indication of stream health or habitat type, where sites with greater taxa richness are usually healthier and/or have a more diverse habitat.

**EPT** refers to three Orders of invertebrates that are generally regarded as ‘cleanwater’ taxa. These Orders are Ephemeroptera (mayflies), Plecoptera (stoneflies), and Trichoptera (caddisflies); forming the acronym ‘EPT’. EPT taxa are relatively intolerant of organic enrichment or other pollutants and habitat degradation. The exception to the rule are hydroptilid caddisflies (e.g., Trichoptera: Hydroptilidae: *Oxyethira*, *Paraoxyethira*), which are algal piercers and often found in high numbers in nutrient enriched waters and are excluded from the EPT group when metrics are calculated. EPT richness and % EPT scores can provide a good indication as to the health of a particular site. EPT taxa are generally more diverse in non-impacted stream systems.

The **MCI/QMCI** score can be used to determine the level of organic enrichment for stony-bottomed waterways in New Zealand (Stark, 1985). Sinton (2008) sampled only stony-bottomed sites within the MWRS thus this metric can be used. It calculates an overall score for each sample, which is based on pollution-tolerance values for each invertebrate taxon that range from 1 (very pollution tolerant) to 10 (pollution-sensitive). MCI is calculated using presence/absence data, whereas the QMCI score incorporates abundance data and so gives a more accurate result by differentiating rare taxa from abundant taxa. As such we have presented only QMCI scores. Scores > 5.99 indicate excellent quality, 5.00–5.99 good quality, 4.00–4.99 fair quality, and < 4.00 poor quality (Stark & Maxted, 2007).

### 2.3.2 Habitat classification

The riparian and instream habitat classification categories for all 225 sites visited were used to give a general indication of the condition of riparian and instream habitat throughout the SDC-maintained portion of the MWRS.

### 3 RESULTS

#### 3.1 Desktop review

Overall the desktop review (summarised below) indicated that while there was some existing data relevant to the SDC-maintained sections of the MWRS (see Figure 2), there was a dearth of information on sites of high ecological value.

##### 3.1.1 Department of Conservation (DoC)

DoC provided a series of internal reports focused primarily on mudfish surveys. Mudfish were found in the MWRS but not in any sections managed by the SDC. DoC also indicated that the now closed Coalgate water race scheme that once operated in the Hororata area (i.e., on the opposite side of the Selwyn River to the MWRS) had very high ecological values with mudfish, koura (crayfish), kakahi (freshwater mussels), and well established riparian vegetation present. Given the proximity of this defunct scheme to parts of the MWRS, there is the potential for these fauna to be present in the MWRS where habitat is suitable. DoC had sampled fish at a number of sites within the MWRS primarily in the search for mudfish with this data being available on the New Zealand Freshwater Fish Database (Figure 2; Table 4). This fish sampling was limited to Gee-minnow trapping which biases the results as certain fish species (e.g., eels, trout) are not often caught in such traps. Upland bully (*Gobiomorphus breviceps*) was the most common and abundant species caught, being present at 11 of 14 sites sampled. Canterbury mudfish (*Neochanna burrowsius*) were found on four separate occasions but only in one general area along Coal Track Rd (Figure 2; Table 4).

##### 3.1.2 Fish & Game

Tony Hawker (Environment Officer – North Canterbury Fish & Game) indicated that Fish & Game are keen to have trout excluded from the water race network and would rather have the trout living in the main rivers (SDC is currently in the process of installing fish screens on the MWRS takes). They also do not consider them high value for angling as access is an issue. Fish & Game would however, be interested in knowing the locations of potential spawning sites if any were found in any future survey.

##### 3.1.3 Ngai Tahu

No information was obtained following initial enquiries. However, given the MWRS is an artificial waterway network built after European farmers settled the Canterbury Plains, I would assume there was no historic cultural use by Ngai Tahu.

##### 3.1.4 Environment Canterbury (ECan)

ECan does not hold any relevant information beyond that which is held by DoC.

##### 3.1.5 Selwyn District Council GIS

SDC provided an array of GIS layer data, some of which pertained to notable flora and fauna and significant natural areas. The only data relevant to the MWRS among this GIS data was an old DoC vegetation record.

##### 3.1.6 New Zealand Freshwater Fish Database (NZFFDB)

Apart from DoC's fish data, nothing relevant to the MWRS was found in the NZFFDB.



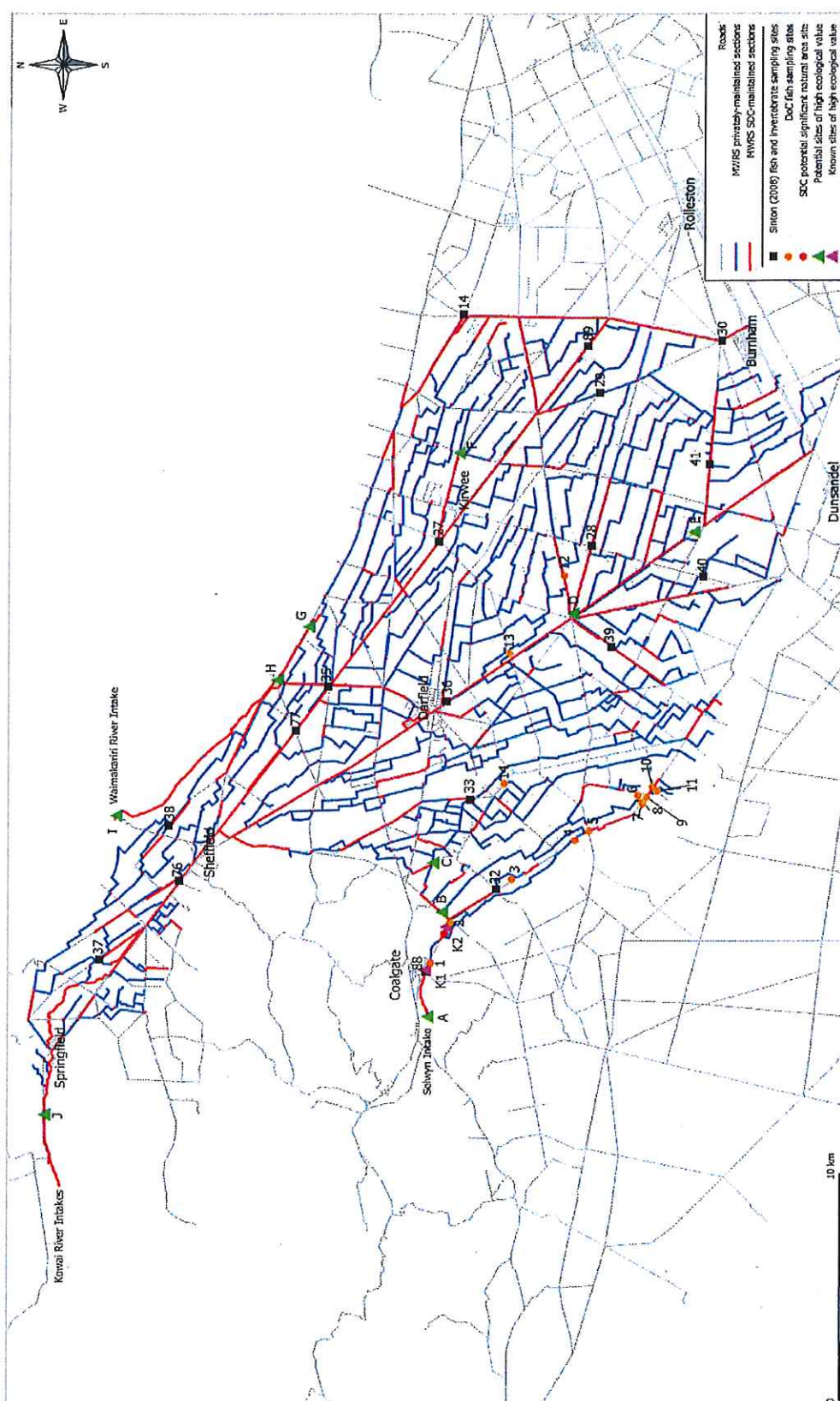


FIGURE 2. Sites within the Malvern Water Race Scheme with existing biological information (i.e., Sinton, 2008; DoC fish sampling sites; SDC significant natural area site) and sites identified as being of potentially high ecological significance by the current study. See Tables 4–6 for site information.



TABLE 4. Department of Conservation Malvern Water Race Scheme fish sampling results from the New Zealand Freshwater Fish Database. Site numbers were assigned for mapping purposes (see Figure 2).

Site no.	Year sampled	Location	No. of fish caught (Gee-minnow trapping at all sites)
1	2004	Coal Track Rd - at Coalgate	Brown trout: 1
2	2004	Coal Track Rd - at Beattys Rd intersection	Upland bully: 2
3	2004	Coal Track Rd - between McLaughlins Rd and Waireka Rd - not SDC-maintained	Upland bully: 5
4	2004	Coal Track Rd - near Bealey Rd intersection - not SDC-maintained	Upland bully: 1
5	2009	Coal Track Rd and Bealey Rd intersection - not SDC-maintained	Upland bully: 15
6	2009	Coal Track Rd - at Warrens Rd intersection - not SDC-maintained	Upland bully: 6 Canterbury mudfish: 1
7	2004	Coal Track Rd - near Warrens Rd intersection - not SDC-maintained	Upland bully: 14 Canterbury mudfish: 1
8	2009	Coal Track Rd - near Warrens Rd intersection - not SDC-maintained	None
9	2004	Coal Track Rd - at Warrens Rd intersection - not SDC-maintained	Upland bully: 17 Canterbury mudfish: 1
10	2009	Coal Track Rd - between Warrens Rd and Bridge Rd intersections - not SDC-maintained	Upland bully: 5
11	2009	Waterford Rd - not SDC managed	Canterbury mudfish: 1
12	2004	Bealey Rd - half between Charing Cross and Courtney Rd	Upland bully: 7
13	2007	Essendon Rd - near Telegraph Rd intersection - not SDC-maintained	Upland bully: 44
14	2007	Elmhurst Rd - between McLaughlins Rd and Greendale Rd - not SDC-maintained	Upland bully: 19

### 3.1.7 EOS Ecology

Amber Sinton (EOS Ecology technician) investigated the differences in the fauna of water race vs. natural streams for her MSc thesis (Sinton, 2008). Amber sampled aquatic invertebrates (quantitatively via Surber sampling) and fish (via electrofishing) from 16 and 18 sites respectively within the MWRS in the summer of 2002–2003 (Figure 2). While some of these sites are outside the sections maintained by the SDC, as a whole the invertebrate data set gives an indication of the instream habitat condition in the network and fish data an indication of the fish fauna present and their distribution (Table 5).

The sites surveyed by Sinton (2008) generally had habitat of good to excellent quality according to the QMCI quality classes of Stark & Maxted (2007) and generally supported a high abundance of EPT taxa (up to 93%) (Table 5). A number of EPT taxa which are more sensitive to habitat degradation were present at some sites (e.g., 32, 37, 77, 78) where such taxa contributed to more than two-thirds of all individuals present (Table 5).

The fish community was species poor with no more than three species found at any one site. Only four fish species as well as freshwater crayfish were encountered in the MWRS. Upland bully was the most widespread being found at 14 of the 18 sites sampled for fish.

TABLE 5. Aquatic invertebrate metrics and numbers of fish caught from sites surveyed by Sinton (2008) in summer 2002–2003. For QMCI the quality classes of Stark & Maxted (2007) are given.

Site no.	Density (no./m <sup>2</sup> )	Taxa no.	QMCI-hb	EPT	% EPT	No. fish including crayfish caught (electrofishing a 20 m reach)
14	2685	16	7.02 (Excellent)	7	68.4	None Upland bully: 27
27	3526	15	5.55 (Good)	6	44.7	Brown trout: 35 Longfin eel: 1 Upland bully: 25
28	4593	15	5.35 (Good)	6	17.8	Brown trout: 5
29	3685	14	5.81 (Good)	6	44.2	Upland bully: 28
30	2544	15	5.18 (Good)	7	31.1	Upland bully: 30
32	1167	11	6.43 (Excellent)	4	82.5	Upland bully: 1
33	11704	11	6.03 (Excellent)	5	14.0	Upland bully: 46
35	1407	16	5.04 (Good)	6	56.8	Upland bully: 4 Brown trout: 5 Upland bully: 1 Brown trout: 5
36	5996	17	6.05 (Excellent)	7	53.6	Upland bully: 12
37	5430	11	7.08 (Excellent)	5	77.8	None
38	2919	15	3.35 (Poor)	2	1.1	None
39	3567	18	4.71 (Fair)	5	12.4	Upland bully: 20
40	3707	18	6.38 (Excellent)	4	61.3	None
41	17833	18	3.75 (Poor)	3	0.1	Upland bully: 5 Brown trout: 4 Longfin eel: 2 Upland bully: 19
76	3178	10	4.18 (Fair)	6	93.0	Brown trout: 2 Longfin eel: 1 Upland bully: 1
77	2333	14	6.82 (Excellent)	5	78.7	Brown trout: 29 Crayfish: 2
88		No invertebrate sampling				Upland bully: 32
89		No invertebrate sampling				

## 3.2 Habitat classification

### 3.2.1 Riparian vegetation

The riparian zone of the MWRS generally had little overhead vegetative cover (i.e., open canopy with less than 20% shade) and was dominated by dense growths of exotic grasses (Class C1) and bare ground (Class A1) (Figure 3). Less than a quarter of the sites visited had greater than 20% overhead shade, and of those sites most were dominated by dense weeds (Class B2) or exotic grass (Class C2) (Figure 3). While native species were present at many sites, they rarely formed a significant component of the riparian vegetation communities in terms of cover. There was also no obvious spatial pattern in the distribution of the vegetation classes (Figure 4). Shaded classes (Classes A2–F2) were generally located beneath mature tree shelter belts which are found throughout the plains.

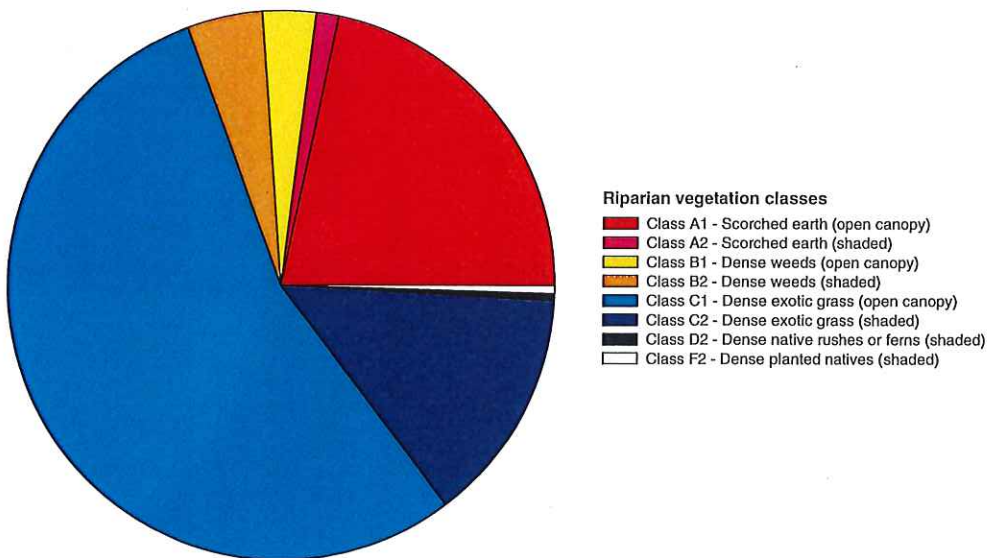


FIGURE 3. The proportion of each vegetation class (see Table 2 for class descriptions) encountered during habitat classification of 225 sites along the SDC-maintained portion of the Malvern Water Race Scheme in late October–November 2010.



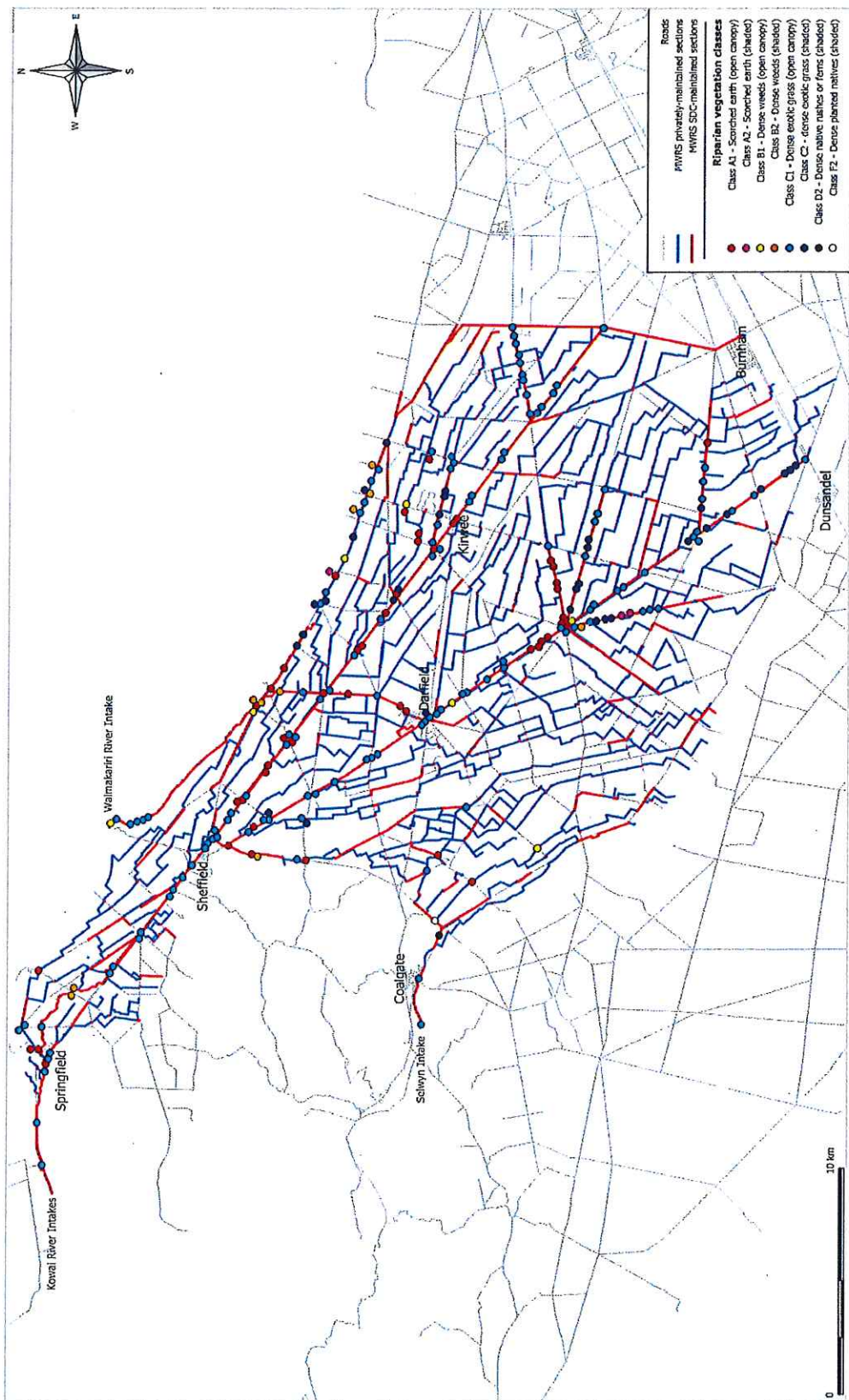


FIGURE 4. Distribution of Malvern Water Race Scheme riparian vegetation habitat classification sites visited during October–November 2010 and the vegetation classes assigned (see Table 2 for description of classes).



### 3.2.2 Instream habitat

Around two-thirds of the sites visited were hard-bottomed with a coarse substrate (dominated by cobble or gravel) and swift to moderate water velocities (Classes G3 and H3; Figure 5). Class G3 (swift water velocity with small cobble/gravel substratum) instream habitat tended to be associated with larger main races located in the western portion of the MWRS area, while Class H3 (moderate water velocity with small cobble/gravel substratum) instream habitat was more common in the east of the network further away from the intakes (Figure 6). A number of sites had moderate water velocity with a fine substratum (dominated by sand or mud) (Class H4), while an equitable number of sites had this substratum with slower water velocities (Class I4). Only a few sites had stagnant water with no detectable water movement (all were Class J4; Figure 5). Such sites were at the far reaches of the scheme at the boundary with the Paparua Water Race Scheme (Figure 6).

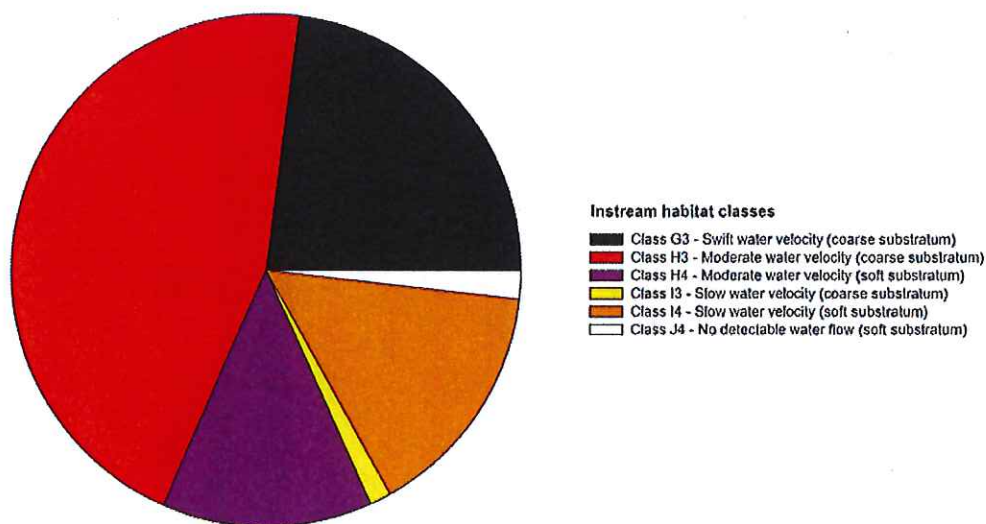


FIGURE 5. The proportion of each instream habitat class (see Table 3 for class descriptions) encountered during habitat classification of 225 sites along the SDC-maintained portion of the Malvern Water Race Scheme in late October–November 2010.

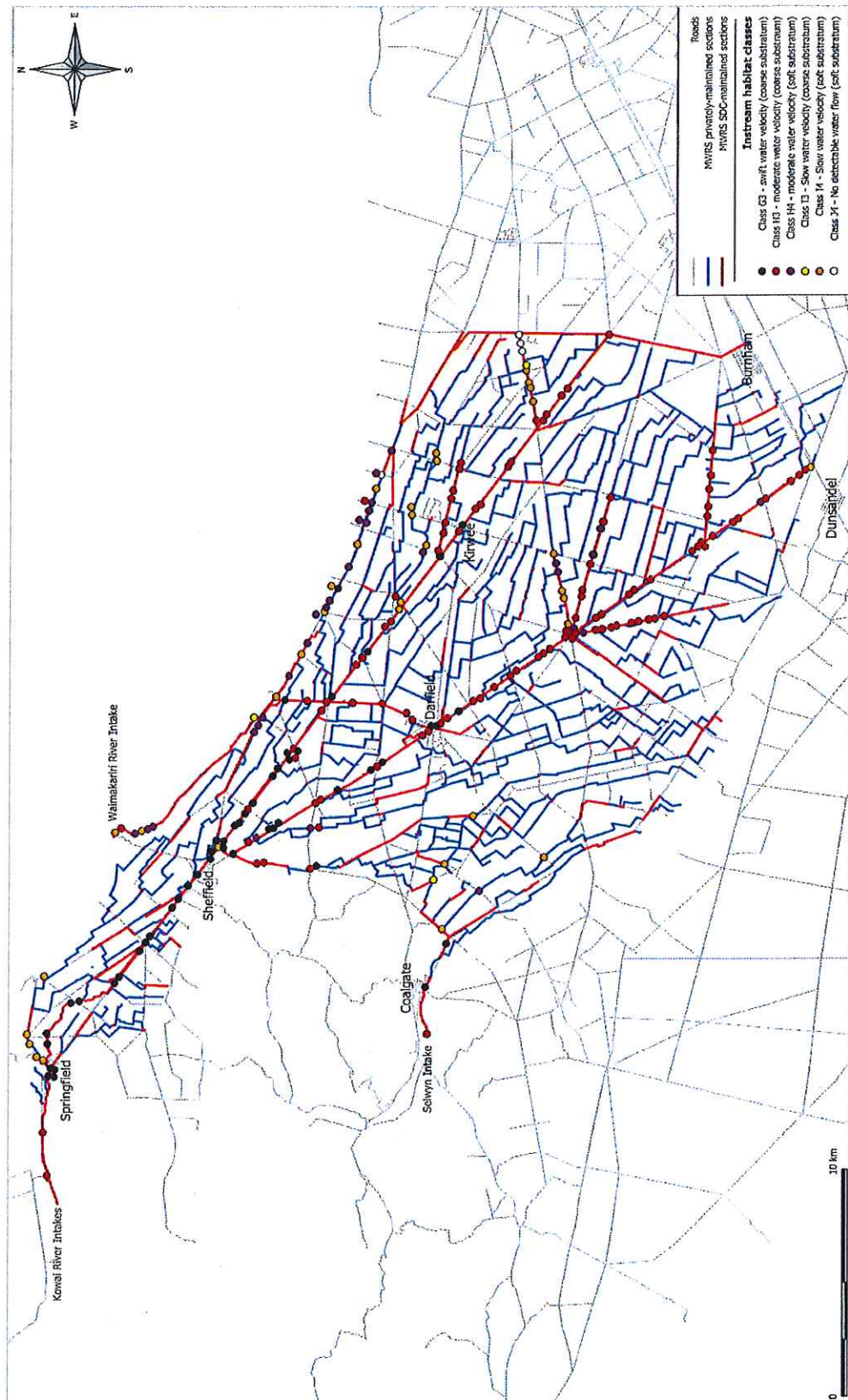


FIGURE 6. Distribution of Malvern Water Race Scheme instream habitat classification sites visited during October –November 2010 and the instream habitat classes assigned (see Table 3 for description of classes).



### 3.3 Known and potential sites and species of high ecological value

During the desktop review, two sites were determined that have known features (i.e., plant community and freshwater crayfish) that may be of high ecological value (Site K1 and K2 in Table 6). However, these sites have never been formally designated as being of high ecological value. These sites will require resurveying as they likely have other ecological values beyond those originally identified.

During the habitat classification field work, a further ten locations were identified as potential sites of high ecological value (Sites A–J in Table 6). These locations include sites covering five of the eight riparian vegetation classes, and five of the six instream habitat classes identified in the MWRS. Additionally, some native plant, fish, and aquatic invertebrate species that are or may be present in the MWRS have been identified as being of high ecological value (Table 7). Sites with populations of one or more of these species also have the potential to be of high ecological value.

TABLE 6. Known and potential sites of high ecological value identified in the Malvern Water Race Scheme during the desktop review or our habitat classification survey undertaken in October–November 2010. Type: RV = riparian vegetation, I = aquatic invertebrate community, F = fish, AV = aquatic vegetation. See Tables 2 and 3 for description of riparian vegetation and instream habitat classes.

	Site no.	Location	Details	Riparian vegetation class	Instream habitat class	Field survey sampling
Known high ecological value	K1	Coal Track Rd - between Beattys Rd and Bridge St, at Coalgate	High quality invertebrate community, crayfish found here in past.	C1	G3	I, F
	K2	Coal Track Rd - between Beattys Rd and Bridge St (Beattys Rd end)	Dense swamp kikio ( <i>Blechnum minus</i> ). Potential high quality invertebrate community.	D2	G3	RV, I, F
Potential high ecological value	A	Glentunnel golf course - ~30 m downstream of intake by Glentunnel golf course	Deep, clear water. Lots of macrophytes, school of fish fry (trout?). Potential high quality invertebrate community.	C1	H3	I, F, AV
	B	Beattys Rd - between Coal Track Rd and Yeomans Rd	Potential mudfish habitat - slow flow, clear water, and vegetation overhang.	C2	I4	F
	C	Hacketts Rd - between Bangor Rd and Waireka Rd	<i>Helicopsyche</i> abundant, good <i>Potamogeton cheesemanii</i> growths	C1	I3	I, AV
	D	Wards Rd - between Telegraph Rd and Courtenay Rd	Dense <i>Potamogeton cheesemanii</i> .	A1	H4	AV
	E	Telegraph Rd - between Grange Road and Courtenay Road	Good native plant diversity (10 terrestrial spp. including 5 spp. of ferns)	C2	H3	RV
	F	Hoskyns Road - west of Highfield Road, at intersection	Good native plant diversity (8 spp.)	C1	H3	RV
	G	Old West Coast Road - between Auchenflower Road and Pitts Road	Good native plant diversity (9 spp.)	C2	H4	RV

Potential high ecological value	H	Old West Coast Road - southeast of Kimberley Road, at intersection	Good native plant diversity (8 spp.)	A1	I4	RV
	I	Waimakariri Intake Channel - off Waimakariri Gorge Bridge Road	Good native plant diversity (10 spp.)	B1	I4	RV
	J	West Coast Road –intake channel	Good native plant diversity (9 spp.)	C1	H3	RV

TABLE 7. Species that are or maybe present in the Malvern Water Race Scheme that are of high ecological value.

Species	Details
Canterbury mudfish ( <i>Neochanna burrowsius</i> )	"Nationally critical" threat classification (Allibone <i>et al.</i> , 2010). Has been found in the MWRS.
Freshwater crayfish ( <i>Paranephrops zelandicus</i> )	Considered to be threatened and in gradual decline (DOC, 2011). Has been found in the MWRS.
Freshwater mussels ( <i>Hydridella menziesi</i> )	Considered to be in decline (McDowall, 2002).
Spiral-shelled caddisfly ( <i>Helicopsyche</i> spp.)	Typically only found in undegraded waterways and has highest MCI score of 10 (Stark & Maxted, 2007). Has been found in the MWRS.
Spiny-gilled mayfly ( <i>Coloburiscus humeralis</i> )	Typically only found in undegraded waterways and has very high MCI score of 9 (Stark & Maxted, 2007). Has been found in the MWRS.
Red pondweed/Manihi ( <i>Potamogeton cheesmanii</i> )	Native macrophyte often replaced by the exotic <i>P. crispus</i> . Has been found in the MWRS.
Little hard fern ( <i>Blechnum penna marina</i> )	Uncommon on Canterbury Plains
Lance fern/Nini ( <i>Blechnum chambersii</i> )	Uncommon on Canterbury Plains
Rough pigfern ( <i>Hypolepis ambigua</i> )	Uncommon on Canterbury Plains
Water fern/Mata ( <i>Histiopteris incisa</i> )	Uncommon on Canterbury Plains
Toatoa ( <i>Haloragis erecta</i> )	Uncommon on Canterbury Plains

## 4 DISCUSSION

Following European colonisation, the Canterbury Plains rapidly lost most of their native biodiversity as the landscape was transformed from one dominated by native vegetation to a predominantly agricultural and horticultural landscape dominated by introduced plants and animals. Despite being such a modified environment it is encouraging to see Environment Canterbury (and Selwyn District Council) recognising that there may be locations in the Canterbury Plains that are still of high ecological value and worthy of protection. Even though the MWRS is an artificial network of waterways originally designed to provide stock water to a sizeable portion of the central Canterbury Plains, they have been in existence for so long that numerous native species have successfully colonised them.

While the identification and protection of sites of high ecological value is most likely to be concentrated at the site scale, the entire continuous MWRS has intrinsic value as a water source for terrestrial wildlife (e.g., birds, mammals, invertebrates). Often the water of the MWRS is the only surface water available over a wide area and it is used by numerous species including some that provide vital ecological services for humans (e.g., honey bees; Figure 7).





**FIGURE 7. Honey bees (*Apis mellifera*) drinking from the Malvern Water Race Scheme adjacent to Old West Coast Rd on 27 October 2010. Plant pollination by honey bees is critical to the success of numerous crops.**

The MWRS provides habitat for many endemic species including aquatic invertebrates, fish, and aquatic and riparian plants. The aquatic species would have originally colonised either through the intakes (e.g., fish, various invertebrates) or from nearby natural waterways (e.g., aquatic insects with winged adults). On the intensively farmed plains, ungrazed shaded areas alongside water races have a microclimate that allows many native plant species to persist in a highly modified environment. Such species would simply not be present if the MWRS had not been constructed (or if it was closed down). Additionally the main feeder races are often alongside roads and have stock excluded, meaning the race and its riparian zone are not subjected to the disturbance of grazing and cultivation. Such sections provide relatively undisturbed habitat for various riparian plant species.

We have decided to define “high ecological value” based predominantly on whether a site contains habitat for rare or endangered species; preserves genetic diversity (i.e., is diverse or abundant in species); is rated or has the potential to be listed as being of international, national, regional, or local importance; or contains unique species, populations, communities, or ecosystems. There is at least one species (Canterbury mudfish) that has a nationally critical conservation status. Consequently any site with suitable habitat for this species has the potential to be of high ecological value, while any sites where they are found would most certainly be of high ecological value. Most of the riparian plant and aquatic invertebrates present are not uncommon in a national sense but several species are rarely found on the Canterbury Plains, thus their occurrence along the MWRS is notable. Sites that have a number of such species have the potential to be of high ecological value.

The desktop review uncovered only two known sites that could be considered to have high ecological value (one with dense native ferns and another with the threatened freshwater crayfish). During the rapid habitat classification several other sites of potentially high ecological value were identified primarily by the diversity of native species (plant, aquatic invertebrate, or both) observed. These sites require more detailed surveys to document the quality of the habitat, the species present, and confirm their high ecological value. These potential sites of high ecological value cover five of the eight riparian vegetation classes, and five of the six instream habitat classes identified in the MWRS. Any future survey must include at least one site from within each riparian vegetation class and instream habitat class thus additional survey sites will need to be added to meet these criteria. The full list of sites to undergo detailed surveys will need to be finalised after consultation with the SDC to ensure any particular sites they may be interested in (e.g., for potential future developments such as the Central Plain Water Scheme) are included where possible.

## 5 ACKNOWLEDGEMENTS

We acknowledge Keri Harrison (SDC) for initiating this project and Rosanna Campi (SDC) for providing GIS data. Thank you to Wayne McCallum (ECAN), Sjaan Bowie (DoC), Anita Spencer (DoC), Tony Hawker (Fish & Game), and Amber Sinton (EOS Ecology) for providing ecological information on the MWRS. We appreciate the assistance of Colin Meurk in developing the riparian vegetation classes.

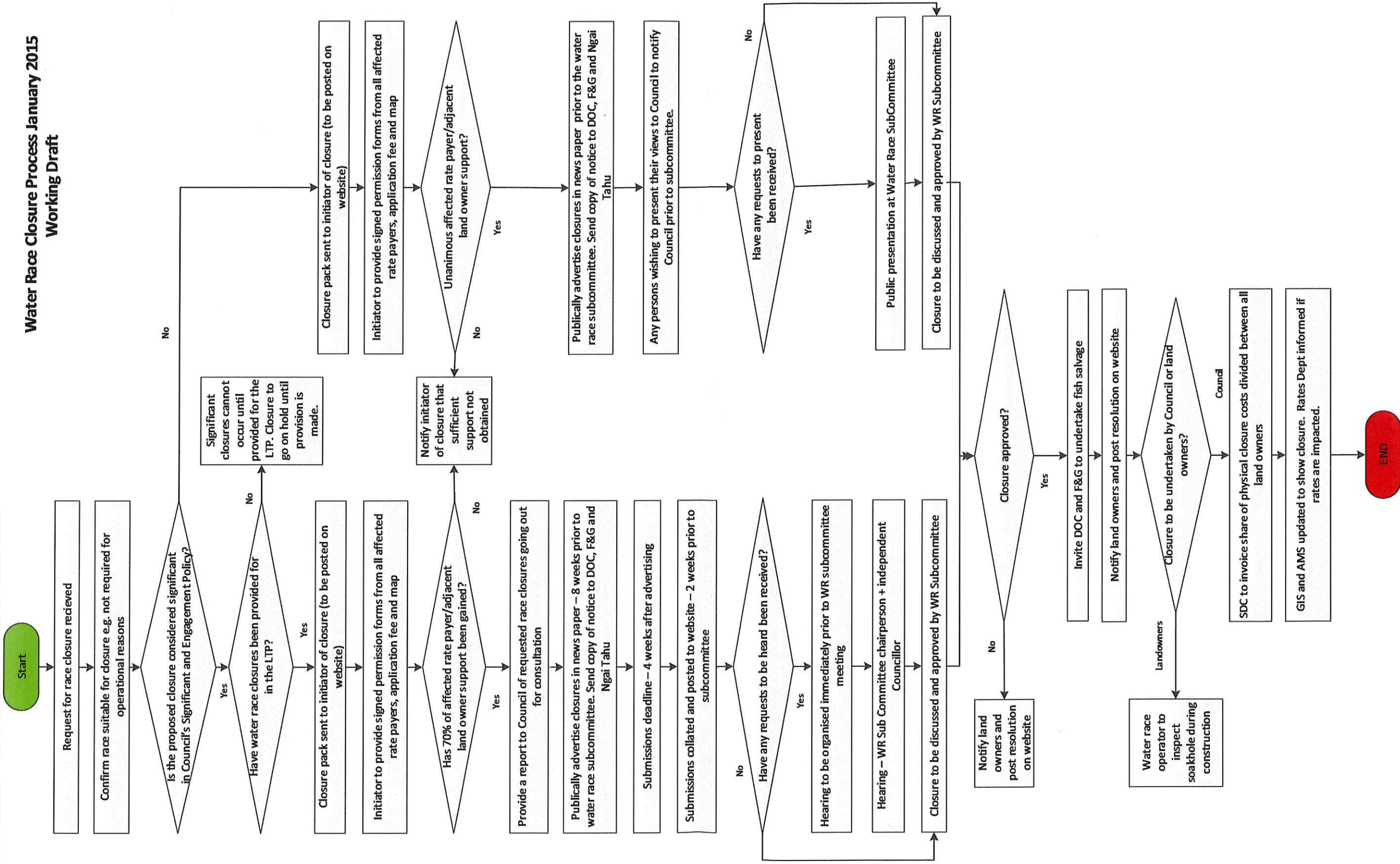
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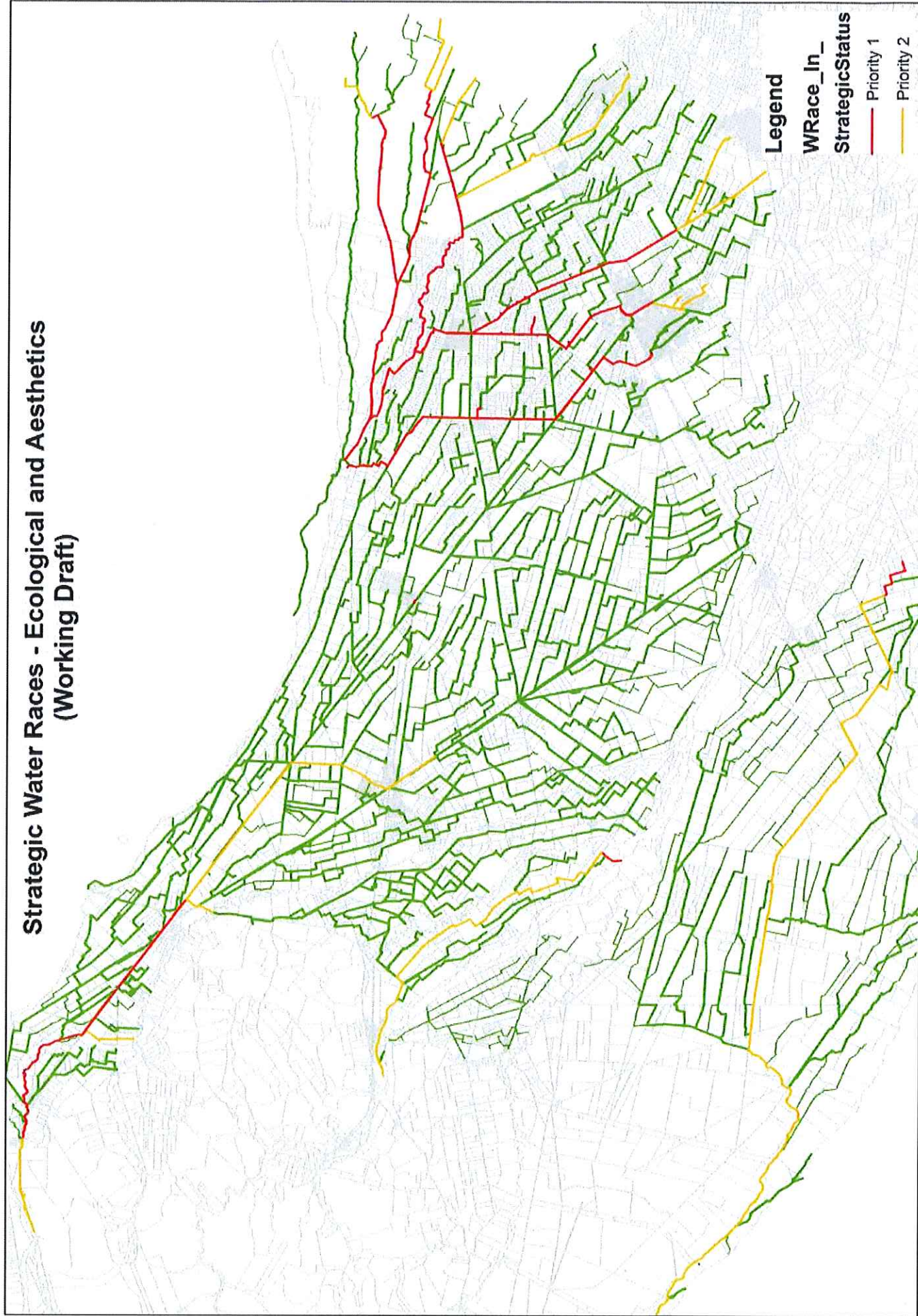








**Strategic Water Races - Ecological and Aesthetics  
(Working Draft)**



# REPORT

**TO:** Chief Executive  
**FOR:** Water Race Sub Committee Meeting – 14 May 2018  
**FROM:** Water Services Engineer  
**CC:** Corporate Services Manager  
**DATE:** 07 May 2018  
**SUBJECT:** **Proposed Water Race Closures Approval – Post Public Consultation**

---

## 1. RECOMMENDATION

### **That the Sub-Committee:**

- a) Consider any submissions received regarding the proposed closures.*
- b) Provide recommendations to Council on the closure of 1 length of water race totalling approximately 2.9km in the Ellesmere schemes; or*
- c) Postpone recommendation to Council until further ecological investigation is carried out.*

## 2. PURPOSE

To seek recommendation from the Committee for the following proposed closures that were approved for public consultation at the sub-committee meeting in February 2018:

### **Ellesmere**

- 1. Closure of 2.9km of race through 2 property/owners on Feredays / Main Rakaia Road – This Closure is immediately upstream of previously approved Lill Closure, Approved in November 2016. This closure is yet to proceed as it is awaiting a fish salvage.

## 3. SIGNIFICANCE ASSESSMENT/COMPLIANCE STATEMENT

Explicit provision has been made in the 2015/25 LTP for water race closures<sup>1</sup> initiated by rate payers. The LTP has identified the following as major projects:

- Proactively progress the closure of the Haldon water race intake (within the Ellesmere Water Race Scheme) including the down gradient race network which is supplied by this intake. Targeted stream augmentation will possibly be taken into account with some lengths of races remaining open to convey this flow.
- Progress ratepayer initiated water race closures once approved by the Water Race Committee for closure.
- Work with Central Plains Water to develop a concept for converting the Kowai River sourced water race network (part of the Malvern Water Race Scheme) into a combined water race and irrigation network. This concept will then be used for further consultation with the community.
- Work with Environment Canterbury and key stakeholders to realise opportunities to use consented stock water for environmental enhancement including targeted stream augmentation.
- To investigate options for integration of the stock water races with Central Plains Water.

<sup>1</sup> LGA 2002 S97(2)a  
Water Race Sub Committee Agenda May 2018



Significance is interpreted in section 5 of the Local Government Act 2002. The Council's Significance and Engagement Policy further outlines the meaning of 'significance' by stating that:

Significance should be assessed in terms of consequences for:

- The district or region
- Any persons who are likely to be particularly affected by or interested in the proposal, decision or matter
- The capacity of the local authority to perform its role, and the financial and other costs of doing so.

The Significance and Engagement Policy also sets out criteria for assessing significance which are applied in section 3.1 below.

The 2015/25 LTP identifies Water Races as a strategic asset. Strategic assets are assets or groups of assets that the local authority needs to retain to maintain its capacity to achieve or promote any outcome that is important to the current or future wellbeing of a community.

The LTP states that the level of significance of a decision will determine the process used by the decision maker considering Council's commitment to constructive community engagement. An assessment of significance has been included below for the Committee's discussion and recommendation.

### **3.1 Decision Making Considerations**

The proposed water race closure included in this report in Table 4.1 has been considered against the criteria for assessing significance from the Significance and Engagement Policy contained in the LTP 2015/25 (pp. 213-214 of the LTP):

#### **Policy and Outcomes**

The following community outcomes are considered relevant to proposed water race closures:

**Table 3.1 – Community Outcomes**

<b>Community Outcome</b>	<b>Level of Support</b>
A living environment where the rural theme of Selwyn is maintained	Rural land use is changing. The proposed water race closures are being driven by the Community in line with their changing needs, therefore water race closures support this community outcome.
Selwyn has a strong economy which fits within and complements the environmental, social and cultural environment of the District.	Council seeks to support existing agriculture and other land based sectors. Ceasing to operate inefficient and ineffective assets that are no longer required by the Community supports the local economy.

- Closing water races that are no longer required by the community, provides economic benefit to the rural communities of the District and reflects the changing needs of these communities.
- There are no known impacts on Council's capacity to undertake its statutory responsibilities.
- There are no known inconsistencies with any existing policy, plan or legislation.

#### **Communities**

- Water race closures are generally driven by the Community.

- The number of property owners affected by each closure is detailed in Table 4.1. Consultation to the wider community has occurred along with notification of key stakeholders include Department of Conservation, Fish and Game, Environment Canterbury and New Zealand Fire and Emergency.
- Affected persons are directly consulted on all water race closures. These include rated and non-rated properties that have a water race on or adjacent to their property. Where a closure has attracted 100% support from directly affected property owner, the closure is considered to be of low significance.
- Following approval by the Water Race Sub Committee, public advertisement of the proposed closures has occurred since February 2018:



## DISCONTINUANCE OF A STOCKWATER RACE

### Ellesmere Scheme

The Selwyn District Council, in accordance with the special consultative procedure as outlined in the Local Government Act 2002 advises their intention to discontinue the following stock water races

**Ellesmere Scheme**

1. Closure of 2.9km of race through 2 property/owners on Feredays/Main Rakai Road

These closures are considered to be of low significance and do not alter the intended level of service of the overall water race schemes. Directly affected ratepayers have agreed to close these water races.

Detailed information including location maps can be found on the Selwyn District Council website [www.selwyn.govt.nz/wrclosure](http://www.selwyn.govt.nz/wrclosure) or can be viewed at Council offices in Rolleston.

For more information or to make a submission, please contact:

James Skurupey, Surface Water Engineer  
 Phone: 03 347 1840 or Email: [waterraces@selwyn.govt.nz](mailto:waterraces@selwyn.govt.nz)  
 By 16 March 2017

- Council are considering the ecological impact of race closures by facilitating salvage of aquatic life where appropriate.
- It is not expected that proposed water race closures will generate wider national or international interest.

### Ngāi Tahu

- The impacts on water race closures have been assessed against the Iwi Management Plan and Te Runanga O Ngāi Tahu's Freshwater Policy. These assessments are included in section 7.3 of this report.

### Context and Implications

- An assessment of the options considered as alternatives to water race closure is included in section 6 of this report.

- The proposed water race closures are not expected to have any unintended consequences for community interests. The environmental, social and cultural impacts of the closures have been considered as outlined below:
  1. Cultural interests – the race closures proposed are not considered to impact the character of the District, as they are often on private land and exist extensively in other parts of the District. There are no historic assets/fabric as part of the proposed closure. There are not known cultural links to this section of closure.
  2. Social interests – water races on private property are not considered to provide amenity value to the wider community and their closure is therefore not considered significant. Race closures on the roadside may have some visual impact in areas with high amenity. Under Council's process, for a rate payer initiated race closure to proceed, all affected property owners (those with a race on or adjacent to their property regardless of whether they are rated for stock water) are consulted and approval is required for closure to be progressed. Further public submissions are invited from the wider community.
  3. Economic interests – the proposed race closures will have no identifiable economic impact on the wider Selwyn District. Council will monitor the cumulative impact on rate revenue reduction which is discussed further in section 12.
  4. Quality of the Environment – opportunities for salvage of aquatic life will be provided in consultation with the Department of Conservation prior to any race closure. Closing ineffective and inefficient races provides environmental benefit as discussed further in section 7.
- The proposed water race closures are not considered to impact a scarce resource. The provision of water for stock can generally be provided from alternative sources.
- The proposed water race closure is considered as irreversible where it cross private property. Council do not hold easements for most water races and are unlikely to have sufficient legal and economic controls for reinstatement of water race channels on private property. However, stock water supply can be provided from other sources.
- By undertaking public consultation on the proposed water race closure, Council will establish whether the proposed closure is considered controversial.
- All water race closures will be progressed following appropriate consultation in a timely manner
- Closures that have attracted 100% support do not present uncertainty or lack of clarity for Council. Council initiated closures being progressed to consultation with 70% support or greater attract some degree of uncertainty. Greater certainty will be obtained during the consultation period.

The proposed water race closures represent the following loss to each of the schemes:

**Ellesmere**

- Reduction in length of water races 0.001%
- Loss of targeted rates income 0.24%

Based on the above assessment, it is recommend that the proposed closure is considered of **low significance** in terms of consultation requirements. The level of significance impacts the degree of consultation undertaken on the engagement spectrum. Council takes a conservative approach to consultation. The impact of the closure has a much higher significance as outlined in the submission from the Department of Conservation.



#### 4. HISTORY/BACKGROUND

##### 4.1 Proposed Closures Recommended for Progression

Council has received requests for closure of the following races.

**Table 4.1 – Proposed Water Race Closures**

Ref	Scheme	Received from	Road Name	Number of affected Props	Approx KM Race	Progress
1	Ellesmere	Ian Lowery	Feredays / Main Rakaia Road	2	2.9km	100% support from properties
2	TOTAL			2	2.9km	

Appended to this report are maps showing the location of the above sections of race proposed for closure.

## 5. PROPOSAL

Approval is sought to close the following sections of water race:

### Ellesmere

1. Closure of 2.9km of race through 2 property/owners on Feredays / Main Rakaia Road

## 6. OPTIONS

Where a request for water race closure is received, there are a number of potential options available to Council.

**Table 6.0 – Alternative Options Considered**

Option	Details	Advantage	Disadvantage
<b>1. Water race closure</b>	Race closure with the agreement of all affected land owners (rate payers on the race or directly adjacent to the race), subject to public consultation and reasoned consideration and response to issues raised during consultation.	Objective is achieved and wishes of rate payers considered.	Loss of rating income. Ecological values of races not maintained.
<b>2. Piping of water race</b>	Piping can be considered if downstream property owners wish to maintain supply. Piping to be funded by each landowner. Piping a water race will not maintain the ecological value of an open water race channel.	Supply to downstream property owners maintained.	Landowners responsible for maintenance of pipes with potential upstream impacts if not maintained. Higher cost to land owners. Ecological values of races not maintained.
<b>3. Race relocation</b>	Relocation could be considered if downstream property owners wish to maintain supply for stockwater purposes. Costs to be met by landowners.	Rating income retained.	Unlikely to achieve benefits of race closure required by land owners. Potential impacts on adjacent land owners. Cost to land owners.
<b>4. Race retained</b>	Do nothing races retained.	Rating income retained.	Needs of rate payers requesting closure not met.
<b>5. Onsite alternatives</b>	On site alternatives e.g. a well, could be considered if land owners wish to retain a stockwater service.	Stockwater supply retained.	High cost to property owners for installation and ongoing maintenance. Ecological and other race values not retained.

These options are alternatives to closure of an open race if a downstream landowner requires a stockwater supply to continue. Water race closures will only occur for short lengths of race (excluding whole or major part of scheme closures) if 100% support from affected land owners is obtained.

## 7. VIEWS OF THOSE AFFECTED/CONSULTATION

### 7.1 Views of those affected

The Local Government Act section 82 requires consultation with persons affected by or have an interest in a decision. They must also be provided with a reasonable opportunity to present their views to the Local Authority.

Rate payer initiated closure have been provided for in the 2015/25 LTP.

As required under Council's water race closure process agreement to close water race forms have been received from all affected properties. An affected property owner has been deemed to be those with a race on or adjacent to the property, regardless of whether the property is rated. A letter was sent to all directly affected property owners to notify them that the proposed closure has been approved to progress to public consultation.

The proposed closures have been publically advertised in the following ways:

- 'Council Call' section in the Selwyn Times newspaper
- Letter to MKT & Te Taumutu Rūnanga, Department of Conservation, Fish and Game and NZ Fire Service
- A summary of proposal, maps and copy of the public advert detailing the proposed race closures was posted on Council's website

Two letters from key stakeholders were returned to the Council as shown in appendix C:

- Fish and Game
  - Inquiring on fish salvage practices; and
- Department of Conversation
  - **DO NOT Support** – Due to the presence of mudfish and their protected status
- No response was given from Te Taumutu Rūnanga or Mahaanui Kura Taiao on their behalf. It is therefore prudent to refer to the Mahaanu Management Plan Drain Management Sections on page 96. A copy of this directed section of the IMP is included in appendix D.

Where a proposed water race closure has attracted 100% support and no submissions are received, the Sub-Committee will progress the closure once approved by Council.

## 7.2 Interested Parties Consultation

To allow any parties with an interest in water race closures to input into the process as required by S 82 (1 (a)) of the LGA, the closures were publically advertised for a minimum of 2 weeks in Council Call and on the Council website. Maps of proposed water race closures will be available to view at Council or on the website. A summary of the proposed water race closures is made available on the Council website.

Specific stakeholders identified as Department of Conservation, Fish and Game, New Zealand Fire and Emergency and as well Te Taumutu Rūnanga were directly provided with a copy of the above advertisement.

Council has delegated powers to hear submissions to the Water Race Sub Committee and make recommendation on the significance of water race closures and agree closures not deemed significant.

Minutes from the Water Race Subcommittee meetings are available for public viewing on Council's website.

## 7.3 Māori implications

Te Runanga O Ngāi Tahu's Freshwater Policy recognises the importance of providing a stockwater supply to communities. This principal is considered alongside a number of others which seek to protect the environment and its inhabitants.



By proposing the closure of ineffective, inefficient and no longer required water race assets, Council is proposing to better balance the needs of rate payers, Iwi and the environment.

*Mahaanui*, The Iwi Management Plan (IMP) 2013, recognises the importance of the water race network and states that they should be managed as waterways. In support of these principals Council require that heavy stock (deer and cattle) is fenced from entering the water races and provides advice to landowners on how to provide stock access to drink without entering the channel.

At the time of advertising closures, details of the proposed closure are provided to Ngāi Tahu via MKT. It should be noted that in general water races requested for closure are often tail end races (lateral races) where excess water is disposed of to ground. Where a water race feeds another water course further consideration will be given to impacts on that waterway.

## 7.4 Ecological Considerations

The Canterbury Water, Selwyn Wahiora Zone Implementation Programme acknowledges that Council are reviewing the operation of the stockwater race network and seeking opportunities for rationalisation while managing some races for biodiversity and community values.

The Implementation Plan supports race rationalisation and recognises the importance of reliable stockwater supplies while identifying opportunities for supporting an aquatic corridor from mountains to sea via water races and creating wetlands at discharge to ground locations.

*Mahaanui*, the Iwi Management Plan 2013 recognises the importance of the water race network for biodiversity and habitat for native freshwater fish. Where appropriate opportunities for salvage of aquatic life and relocation will be provided to DoC and Fish and Game prior to a water race closure occurring.

EOS Ecology undertook an assessment of sites of high ecological value within the Ellesmere and Malvern Water Race schemes in 2011. A copy of the findings of the assessment is included in Appendix B.

The Ellesmere race proposed for closure has been identified as being of **high ecological value** with freshwater mussels, native aquatic invertebrate biodiversity. DoC staff has provided feedback per appendix C on this closure and recommends **not closing** this section of water race.

In a memo to Council dated 6 July 15, DoC have indicated that the level of input from DoC may need to be prioritised based on predicted distribution of threatened species and external contractors may need to be used if DoC staff cannot assist. DoC may however provide guidance to Council and Contractors on the process the suitable sites for relocation.

Where DoC staff are not available to undertake salvage of aquatic life and it is deemed necessary, consulting companies exist that are equipped to undertake electrofishing, however this may attract significant cost. The Agreement to Close Water Race form states that the benefiting property owners are liable for their share of the costs associated with the closure. To date this has been the cost of installing a soakhole at approximately \$3,000.

## 8. RELEVANT POLICY/PLANS

The closures included in this report are consistent with Council Policy W107 Closure of Water Races.

As stated in section 3 Water Race Closures are being done in line with Council's Significance Policy.

## **9. COMMUNITY OUTCOMES**

The role of water races in maintaining a living environment where the rural theme of the District is maintained, has been recognised in the LTP. Providing an effective water race service and delivering levels of service is a key part of delivering community outcomes. Where a race cannot be supplied due to consent limits at the intakes or operational issues and leakage, maintaining channels that are not used or that have intermittent flow is counter to achieving this objective.

## **10. NEGATIVE IMPACTS**

Negative impacts or effects will be considered as part of the race closure approvals process and closures will only proceed if negative effects are mitigated or minimised and affected land owners agree.

## **11. LEGAL IMPLICATIONS**

None identified at this time.

## **12. FUNDING IMPLICATIONS**

### **12.1 Rating Impact**

The proposed race closures detailed in this report are expected to have the following impact on rating income:

**Table 12.1 – Funding Implications of Proposed Race Closures**

Ref	Scheme	Received from	Road Name	Loss of Targeted Rating Income	Percentage of Total Rating Income
1	Ellesmere	Ian Lowery	Feredays / Main Rakaia Road	\$2,198.50	0.5%
			<b>TOTAL</b>	<b>\$2,198.50</b>	<b>0.24%</b>

The cumulative impact of closures will continue to be considered as more closure requests are received. Rates are reviewed and adjusted at each annual plan and long term plan rating review.

### **12.2 Cost Savings**

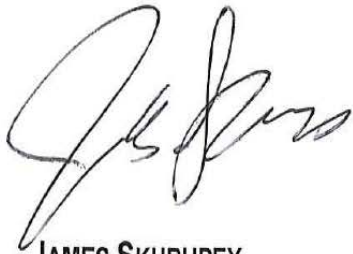
Many of the closures to date have been short lengths of lateral water race that are maintained by the property owners. Closure of these races have minimal impact on operational costs.

### **12.3 Closure Costs**

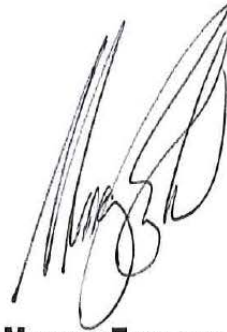
The cost of any rate payer requested closures will be met by the benefiting property owners.

**13. HAS THE INPUT/IMPACT FROM/ON OTHER DEPARTMENTS BEEN CONSIDERED?**

A copy of this report has been provided to the Corporate Services Manager as income accounts will be affected.



**JAMES SKURUPEY**  
**SURFACE WATER ENGINEER**



**MURRAY ENGLAND**  
**ASSET MANAGER, WATER SERVICES**

**ENDORSED FOR AGENDA**



**MURRAY WASHINGTON, ASSET MANAGER**

**APPENDICES**

**APPENDIX A – PROPOSE WATER RACE CLOSURE MAPS**

**APPENDIX B – EOS ECOLOGY, SITES OF HIGH ECOLOGICAL VALUE – 2011**

**APPENDIX C – STAKEHOLDER RESPONSE**

**APPENDIX D – IWI MANAGEMENT PLAN**



**PROPOSED**

## CLOSURE

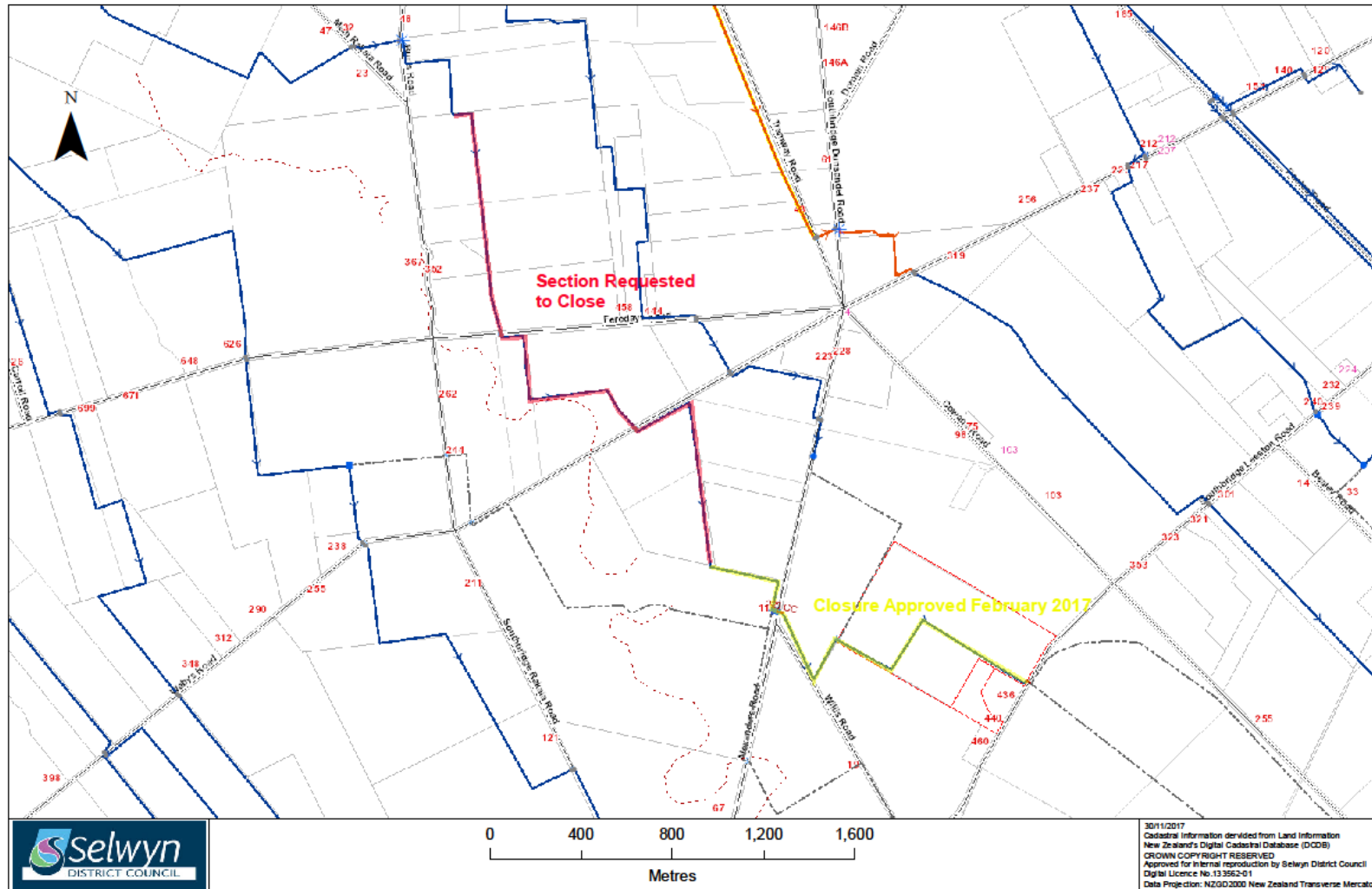
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## TRAMWAY

**Rd**

## Lowery Closure



## APPENDIX B – EOS ECOLOGY, SITES OF HIGH ECOLOGICAL VALUE – 2011.



## APPENDIX C –STAKEHOLDER RESPONSE

### James Skurupey

**From:** Anita Spencer <aspencer@doc.govt.nz>  
**Sent:** Wednesday, 21 March 2018 4:31 p.m.  
**To:** James Skurupey  
**Subject:** RE Selwyn District Council - Proposed water race closure

Hi James,

We've had a look at what we know about these sites. We have no problems with the closure of the Lowery area (closure 1) however the Feredays Rd/Main Rakaia Road is a section which contains mudfish. Given the species has the same threat ranking as kakapo and black stilt the race should be left open.

Our preference is that SDC determines the best sections of water races overall to keep for their biodiversity values which would then allow us to view closures against a baseline of what is currently protected. There are currently no protected water race sites. We don't support the closure of this section. Please feel free to contact me if you have any questions,

Ngā mihi  
Anita

Anita Spencer  
Senior Ranger

Phone 03 341 9109 / 027 542 8056  
Mahaanui Office/Department of Conservation/31 Nga Mahi Rd/Sockburn/Christchurch  
PO Box 11089/Sockburn 8443/ Christchurch



**From:** James Skurupey [mailto:James.Skurupey@selwyn.govt.nz]  
**Sent:** Tuesday, 27 February 2018 1:11 p.m.  
**To:** Anita Spencer <aspencer@doc.govt.nz>  
**Subject:** Selwyn District Council - Proposed water race closure

Dear Stakeholder,

I am emailing to inform you of a proposed water race closure in the Ellesmere Water Race Scheme. Attached is the official letter outlining information on this closure and a copy of the Public Notice.

If you have any further questions or concerns please contact me.

Ngā mihi,



James Skurupey CEnvPI Surface Water Engineer | Selwyn District Council  
DDI: +64 3 347 1840 | Mobile: +64 27 809 7144



Selwyn District Council, 2 Norman Kirk Drive, Rolleston 7614; PO Box 90, Rolleston 7643, Christchurch  
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## James Skurupey

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**From:** Tony Hawker <thawker@fishandgame.org.nz>  
**Sent:** Monday, 5 March 2018 10:06 a.m.  
**To:** James Skurupey  
**Subject:** RE: Selwyn District Council - Proposed Water Race Closure

**Follow Up Flag:** Follow up  
**Flag Status:** Completed

Hi James

My only question would be what the council does in regards to fish salvaging when the race is shut down for both native and sports fish.

Regards

Tony

**Tony Hawker** | Fish & Game Officer

**North Canterbury Fish & Game Council**

PO Box 50, Woodend 7641, North Canterbury

T +64 03 313 5728 | M +64 021 221 8325 | E [northcanterbury@fishandgame.org.nz](mailto:northcanterbury@fishandgame.org.nz) | W [www.fishandgame.org.nz](http://www.fishandgame.org.nz)



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**From:** James Skurupey [mailto:James.Skurupey@selwyn.govt.nz]  
**Sent:** Tuesday, 27 February 2018 1:09 p.m.  
**To:** Tony Hawker  
**Subject:** Selwyn District Council - Proposed Water Race Closure

Dear Stakeholder,

I am emailing to inform you of a proposed water race closure in the Ellesmere Water Race Scheme. Attached is the official letter outlining information on this closure and a copy of the Public Notice.

If you have any further questions or concerns please contact me.

Ngā mihi,

**James Skurupey** CEnvPI Surface Water Engineer | Selwyn District Council  
DDI: +64 3 347 1840 | Mobile: +64 27 809 7144



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## APPENDIX D –IWI MANAGEMENT PLAN

Drain management Page 97

Issue WM14: Drain management can have effects on Ngāi Tahu values, particularly mahinga kai.  
Ngā Kaupapa / Policy

WM14.1 To require that drains are managed as natural waterways and are subject to the same policies, objectives, rules and methods that protect Ngāi Tahu values associated with freshwater, including:

- (a) Inclusion of drains within catchment management plans and farm management plans;
- (b) Riparian margins are protected and planted;
- (c) Stock access is prohibited;
- (d) Maintenance methods are appropriate to maintaining riparian edges and fish passage; and
- (e) Drain cleaning requires a resource consent.

WM14.2 To require and uphold agreements with local authorities to ensure that the timing and techniques of drain management are designed to avoid adverse effects on mahinga kai and water quality, including:

- (a) Identifying drains that are or can be used for mahinga kai;
- (b) Returning any fish that are removed from drains during the cleaning process to the waterway;
- (c) Riparian planting along drains to provide habitat and shade for mahinga kai and bank stability while reducing the frequency and costs of maintenance by reducing aquatic plant growth;
- (d) Ensuring drain management/cleaning does not breach the confining layers;
- (e) Use of low impact cleaning methods such as mechanical 'finger buckets', as opposed to chemical methods such as spraying, to minimise effects on aquatic life;
- (f) Notification to tāngata whenua of any chemical spraying of drains used for mahinga kai or connected to waterways used as mahinga kai; and
- (g) Involvement of tāngata whenua in drain maintenance activities where there is a need to return native fish back to the drain (e.g. tuna, kekewai and kanakana).

He Kupu Whakamāhukihuki / Explanation

Drains are a common feature across Ngā Pākihi Whakatekateka o Waitaha, given that much of the land in lower catchment areas was originally swamp. An extensive network of drains provides flood protection for settlement and land use. Some of these drains are modified natural waterways, and many connect or empty into existing waterways and waterbodies. For this reason drain management is an important kaupapa for tāngata whenua. While drains may not be highly valued in the wider community, drains that function as mahinga kai habitat and where mahinga kai resources are gathered may be identified as wāhi taonga by Ngāi Tahu.

"You can't tell a fish what the difference is between a drain, river, stream or spring." David Perenara O'Connell, Te Taumutu Rūnanga Natural Resource Management Plan 2002.

"Spraying is a quick fix technique, with a very long recovery time." Uncle Waitai Tikao, Ōnuku Rūnanga.