



72ND ORDINARY MEETING OF THE SELWYN-WAIHORA ZONE COMMITTEE TO BE HELD IN THE BAYLISS LOUNGE, LINCOLN EVENT CENTRE, 15 MEIJER DRIVE, LINCOLN ON TUESDAY 6 JUNE 2017 AT 1.30 PM

"If there is magic on this planet, it is contained in water..."

Loran Eisely, US Author

$\mathbf{72}^{nd}$ Meeting of the Selwyn Waihora Zone Committee - Outline of Agenda

DATE:	TUESDAY 6 June 2017
TIME:	1.30pm
VENUE:	Bayliss Lounge, Lincoln Event Centre, Meijer Drive, LINCOLN

Item	Time	Description	Pages	Presenter
	1.30pm	 Meeting commences with karakia and formal order of business: Apologies Identification of Urgent General Business Confirmation of minutes 2 May 2017 Matters Arising & actions from last meeting Report to and from Regional Committee Meeting (Karaitiana Taiuru) Update from Zone Committee members on activities and meetings attended that relate to the Committee's outcomes for the zone 	2 - 11	
		 Correspondence: Letter of support for Snake Creek Restoration Project 	12	
	1.50pm	General Public Contribution		
1	2.00pm	Immediate Steps project in Cave Stream on Flock Hill Station	13 - 18	Environment Canterbury
2	2.30pm	Update on state of water quality in high country lakes in the zone	19 - 26	<i>Sian Barbour,</i> Environment Canterbury
	3.00pm	Break		
3	3.20pm	Zone Delivery Update (no report)		<i>Michaela Rees</i> , Environment Canterbury
4	3.35pm	Update on Whakaora Te Waihora	27	<i>Tim Davie, David Murphy and Stefanie Rixecker,</i> Environment Canterbury
5	4.05pm	Survey of swimming sites in the zone	28 - 32	<i>Anita Fulton</i> Environment Canterbury
6	4.25pm	Identifying priority recreation and amenity restoration sites in the zone	33	<i>Anita Fulton,</i> Environment Canterbury
7	4.45pm	Proposed Selwyn Te Waihora seminar series at Lincoln University	34 - 36	<i>lan Whitehouse,</i> Environment Canterbury
	5.00pm	Approximate finish time		

MINUTES OF THE 71st MEETING OF THE SELWYN-WAIHORA ZONE COMMITTEE HELD IN THE LARGE EXECUTIVE MEETING ROOM, SELWYN DISTRICT COUNCIL, ON TUESDAY 2 MAY 2017 COMMENCING AT 1:00 PM

AGENDA SUMMARY

ltem	Time	Description	Pages	Presenter
	1.00pm	 Meeting commences with karakia and formal order of business: Apologies Identification of Urgent General Business Confirmation of minutes 4 April 2017 Matters Arising & actions from last meeting Report to and from Regional Committee Meeting (Karaitiana Taiuru) Update from Zone Committee members on activities and month, is attended that relate to the Committee's outcomes for the zone Update on Actions from April meeting Correspondence Letter from Supering at Cave Stream on Flock Hill Station Reply to Susan Hall Letter mom Selwyn Waihora Zone Committee to Environment Canterbury re "Talk for Water" at Springston Hall 	3 - 24	
	1.25pm	General Public Contribution		-
1	1.30pm	Revisiting the Immediate Steps project in Cave Stream on Flock Hill Station	25 - 33	Environment Canterbury
2	2.30pm	Further information on Fish and Game project in Snake Creek (Silverstream catchment)	No Paper	<i>Emily Moore</i> , Fish and Game
	3.00pm	Break		
3	3.20pm	Update on communication initiatives in the zone	34 - 41	Angus McLeod, Environment Canterbury and Janine Holland

4	3.40pm	Proposed Selwyn Te Waihora seminar series at Lincoln University	42 – 44	<i>lan Whitehouse</i> Environment Canterbury
5	4.00pm	Proposed Regional Best Management Plan	45 - 47	<i>Chris Keeling</i> & <i>Verity Halkett</i> Environment Canterbury
6	4.30pm	Facilitator's report	48 - 52	<i>lan Whitehouse,</i> Environment Canterbury
	4.50pm	Approximate finish time		

The meeting was opened with a karakia by Stephen Bragg.

PRESENT

Allen Lim (Chair), Cr Anne Galloway (Christchurch City Council), Christina Henderson (Te Hāpu o Ngāti Wheke), Cr Murray Lemon (Selwyn District Council), Cr Iaean Cranwell (Canterbury Regional Council), Victor Mthamo (Community Men ber), George Tikao (Te Rūnanga o Ōnuku), Ron Pellow (Community Member), Karai.ana Taiuru (Te Rūnanga o Koukourārata), Bill Lambie (Community Member), Maree Coiching (Community Member) and Les Wanhalla (Te Rūnanga o Taumutu).

IN ATTENDANCE

Cr Nicole Reid, Jesse Burgess and Therese Drivel (Selwyn District Council); John Benn (DOC); Emily Moore, Allan Strong and Scott Pearson (Fish & Game); Stephen Bragg, Tim Davie, Chris House, Mananui Ramsdon, Michaela Rees, Stefanie Rixecker, Nadeine Dommisse, Angus McLeod, Tania Butter ield, David Murphy, Johannes Welsch and Ian Whitehouse (Canterbury Regional Council)

A group of 15 – 20 people attended the first two hours of the meeting and spoke to the committee (see "General Public Contribution" below). This group included Mike Glover, Nicky and Rosalie Support, Helen Duckworth, Bill Southward and Paul Hodgson.

APOLOGIES

Apologies received from Hayley Moynihan, Clare Williams (Te Rūnanga o Ngāi Tūāhuriri) and Riki Nicholas (Te Rūnanga o Wairewa), were accepted by the meeting.

Moved: Maree Goldring /Seconded: Cr Lemon

'That the Committee accept apologies for absence as noted.'

CARRIED

IDENTIFICATION OF URGENT GENERAL BUSINESS

None

CONFIRMATION OF MINUTES

Minutes of the 70th Meeting of the Selwyn Waihora Zone Committee (Water Management) held on Tuesday 4 April.

Moved: Cr Lemon / Seconded: Ron Pellow

'That the minutes of the 70th meeting of the Selwyn Waihora Zone Committee (Water Management) held on Tuesday 4 April 2017 be confirmed.'

CARRIED

MATTERS ARISING FROM MINUTES

lan Whitehouse explained that any matters from the previous rice ing have either passed (lapsed) or will be discussed later on in the meeting as Items or the agenda.

REPORT TO AND FROM REGIONAL WATER MAKENGEMENT COMMITTEE MEETING

(Refer pages 13 – 14 of agenda)

Topics addressed at the Regional Committe meeting include:

- 1. Report of rubbish from road construction at Arthur's Pass. Michaela Rees to talk to the monitoring officer involved in following or in this;
- 2. The Regional Committee's Recreation and Amenity Working Group will be looking at priority swimming spots in Cantarbury;
- 3. Concerns were raised about the Courseer online tool;
- 4. Global warming is becoming a topic for discussion; and
- 5. Freedom campers are said to continue damaging waterways

UPDATE FROM ZONE COMMITTEE MEMBERS ON ACTIVITIES AND MEETINGS ATTENDED THAT RELATE TO THE COMMITTEE'S OUTCOMES FOR THE ZONE

Amonst the comments made, Ron Pellow reported that a land and water symposium held at the Lincoln University had a good representation from people all over New Zealand. He also attended a workshop on dairy-industry good management practices and a dairy environmental leaders group who have initiated work looking at Coes Ford.

Cr Murray Lemon reported that Selwyn District Councillors visited the Taumutu Marae and also had a meeting with Environment Canterbury councillors recently.

GENERAL PUBLIC CONTRIBUTION

During the General Public Contribution a group raised the following:

- General surprise voiced around the letter from the Zone Committee to Environment Canterbury in which it was implied that Councillors disagreed, which in turn led to mixed messages.
- Zone Committee members were reminded they had been appointed, not elected, and while the work they put in was acknowledged, they also needed to acknowledge that an elected Councillor at Environment Canterbury was admitting to the true state of water and the lake.
- The condition of the lake was getting worse and it would be very costly to clean it up. This was not acceptable and the public should not have to pay for the clean up as it was a result of farming.
- What was needed was to change the nitrogen load limits to a level that would deliver a healthy lake and acceptable nitrate levels.
- There was a concern that when farmers breach the nitrogen levels, they simply increase the loading so when levels are reduced it seems as if they had reduced a lot when in fact it wasn't that much.
- Intensification of dairy farming was raised as major concerv.
- An example of a good news story was suggested as reducing a herd by a third.
- The Committee was urged to listen to its communities and explain gaps in a way that people can understand it clearly if there was a reasonal le argument people may listen.
- It was noted that Canterbury University scientists claimed it could be up to 40 years before the lake is cleaned up.
- The public reiterated that it was not about processes but about the implications of e.g. nitrogen levels being this high.
- The public also expressed concern that the Chair's letter did not recognise all of the issues and they want to see the emphasis put back on the environment and not what commercial industry wants.

Cr Cranwell acknowledge.' that some Councillors will have different views but it was important to note that a.' Councillors support the CWMS process as a collaborative way of working.

Committee members called on the public to submit on the upcoming Long Term Plan, community meetings, and hearings on the review of the Selwyn District Plan.

Dr Rixeker from Environment Canterbury explained the processes of plan changes and asked the community to hold organisations to count.

1. **REVISITING THE IMMEDIATE STEPS PROJECT IN CAVE STREAM ON FLOCK HILL STATION,** Johannes Welsch, Environment Canterbury (*Refer pages 25 – 33 of the agenda*)

The background to the project is to provide for a multi-year gully fencing project in the upper Waimakariri catchment. The landowner has done work clearing wilding pine and there is a commitment for ongoing control of pines. The project received a

high ecological score and show initiative from the landowner on a visible site with significant ecological and rare landscape features. At a previous meeting the Committee asked for the project to be re-visited due to the land owner having withdrawn a consent for vegetation clearance on adjacent land and Department of Conservation (DOC) staff concerns about the fence paving the way for the Station to intensify land use near Cave Stream.

Three issues were raised during the review of the project to show how biodiversity protection will be ensured through funding from the Immediate Steps.

- 1. Actual fence line will be defined onsite with the land manager and others which will provide certainty that no stock will get access;
- 2. The land manager's Farm Environment Plan (FEP) will document how existing biodiversity values are protected; and
- 3. A clear commitment to Environment Canterbury by the Station and community groups to maintaining weed (wilding pine) control.

Christina Henderson reiterated that there should be $enga_{S}$ mer t with Ngāi Tahu and that the cultural aspect has to be covered in the F2P.

A member of the public opposed the fencing asking the Committee why it chose to ignore advice from DOC. John Benn (DOC) responded that DOC had made their position clear and that both Environment Cante bury and Selwyn District Council know about their decision. Dr Rixeker (Eavine ment Canterbury) read a statement received from Andy Roberts, Director Operations – Eastern South Island, DOC which stated that DOC supports the protect and that the Zone Committee should consider how it will ensure that minimal use of natural vegetation occurs.

Emily Arthur-Moore (Fish & (jame) added that whether or not there are strong enough rules in place to manage the risk of land intensification on adjacent land is a separate issue from whether the project should be funded. She noted a small number of cattle in a tream can do a lot of damage and expressed her support for the project.

A member of the public wanted to know why the land owners, wealthy American land leasers, do not have an obligation to contribute to the fencing costs. Maree Goldring responded that they have already paid many thousands of dollars towards wilding pine control and the Chair added the landowners will also retire 120ha of land from grazing as part of the proposed biodiversity protection project.

There was a debate between members of the public and Committee members about whether the project advocated for intensification and the fact that the water quality had up to now been maintained without any fences. It was felt this was one of the last intact landscapes and should be protected. There was also a discussion about whether the fence would be that visible and whether or not the fence could be put in by e.g. the land owner without a consent.

The Chair asked members to indicate whether they wanted the area protected and would support the fencing being funded from Immediate Steps Funding.

Bill Lambie moved against the recommendation and Christina Henderson voiced opposition as well. Les Wanhalla asked if a site visit would be an option and to defer

the matter with a month. This way, the rūnanga could also be consulted and there was time for further information from Selwyn District Council and Environment Canterbury regarding consents and intensification prospects. With all this information the Committee felt it would be in a better position to make a decision at its next meeting following the visit by some of the committee to the site of the proposed fence.

Failure to obtain a unanimous vote and with the Committee following a philosophy of agreeing by consensus, the Committee deferred the matter to its June meeting.

Afternoon tea break

Anne Galloway and George Tikao left 3.05pm

2. FURTHER INFORMATION ON FISH AND GAME PROJECT IN SNAKE CREEK (SILVERSTREAM CATCHMENT), Emily Moore, Allan Strong (Councillor) Fish and Game

Emily Moore and Allan Strong from Fish & Game presented the item. Allan noted there has been a steady decline in trout numbers through the seventies with a slight recovery in the eighties. The numbers of trout reduction Snake Creek currently are in the hundreds rather than the thousands.

Some of the reasons include a loss of acrophytes in Te Waihora; water quality; reduced water quantity and reduced connectivity in the upper and lower river.

He also referred to the 2006 Environment Canterbury report on Brown Trout Spawning which was used as a cuide. Emily added that it was a holistic project which covers many tick – if you make the waterway healthy for trout, it would be healthy for many other species too.

Emily told the Committee that Snake Creek was too wide in places and the areas where a high density of trout redds was found were often much narrower, around 1.5m across. There was also poor water quality visible and with the drains full of weeds it needed mechanical clearing. This was a costly and damaging activity. Although this was presented as a 5 year project, the majority of work will be done in the first 3 years. It is hoped that the site can be used to promote good practice and show what is able to be done.

With the project they hope to improve trout spawning by adding habitat diversity with a mix of woody debris, gravel and boulders, as well as reduce embeddedness using the most appropriate technique to do so. Long fin eels and other species also need clean riffle habitat to flourish.

Emily commented that they would be able to measure their success with the project by sampling water quality for *E.coli*, looking at the variation in water depth / velocity before and after, undertaking trout spawning surveys and measuring the percentage of macrophyte cover before and after the project.

A number of partners will be involved, include CAREX who was the main partner, Selwyn District Council, landowners, Fresh Waters, Fish & Game and others. Taumutu also showed an interest in being involved.

What the project was looking for from Environment Canterbury and in particular, the Selwyn Waihora Zone Committee, was written support for the project and a commitment to offer appropriate internal specialist advice where necessary. The Chief Executive of Environment Canterbury has expressed support but wanted the Zone Committee to endorse the work as well since it was to take place in it's zone. There was also a request for assistance with funding over a three year period, starting in 2018 and communicating to the wider community that this was a step towards restoring the waterways in the Selwyn District.

There followed a brief discussion and some questions for clarification. Although it was true that trout will prey on native invertebrates, the issue was that where numbers are increased and the waterway improved, all species will be increased. It was also noted that adult trout do not spend a lot of time in the waterway, basically only coming in to spawn.

In response to a question from the Chair about ongoing drain clearing costs, Emily noted it was estimated at between 300,000 - 400,000 every 2 years. Les Wanhalla remarked that where kai was ever pulled cut of a waterway, it needed to be replaced. He commented on the work he did in the Selwyn River and Osborne's Drain and that one needed to physically viale behind diggers clearing the waters, to get the fish back.

Michaela Rees (Zone Manager, Environment Canterbury) reminded the Committee that Silverstream catchment was one of the Zone Team's priorities. Emily commented that for any morey put in to the project's work, the Ministry for the Environment would match it.

The Committee agreed is provide their support, on the understanding there would iwi involvement in the grovernance and management of the project. The Committee would also encourage Environment Canterbury to consider providing funding to support the project d project.

Moved: Les Wanhalla / Seconded: Bill Lambie

That the committee receives the report from Fish and Game.

CARRIED

3. UPDATE ON COMMUNICATION INITIATIVES IN THE ZONE, Angus McLeod, Environment Canterbury & Janine Holland (Refer pages 34 – 41 of the agenda)

Angus McLeod introduced Janine Holland who had come on board in January to look specifically at the communications plan of the Zone Committee, to focus on good new stories, alongside looking at material to get the Zone into the social media space. Janine noted the stories came about through contact with organisations outside of Environment Canterbury. 7 stories were completed so far and had different audience, some being more urban where others tend to be more rural.

Janine noted there was a database of further stories to do in future. There will be 2 versions, a shorter version to convey to the media and also longer stories for industry publications or magazines. There will be enough stories from now till August 2017.

In response to a question from the Chair about gauging if messages were getting through to people, Angus McLeod commented that it was the case. As for the social media side of things the Committee will be shown some clips and a package of information. Angus reiterated that the idea of telling stories will be rolled out to other zones.

It was also agreed that the language used needed to be simplified.

During the discussion a member of the public requested pormis ion to address the Committee and lodged a complaint against Environment Cantenbury's lack of action taken after numerous calls, 18 months ago, about effluent being dumped into Bailey's drain, near Coes Ford. The person said they no longer lived near the drain and so did not now whether effluent was still being div charged into the drain. Michaela Rees said she would follow up on the Issue.

It was explained to the complainant that there were compliance officers in each zone who would be able to help immediately. Cr Lemon remarked that he had received similar complaints and that it was crucial to get to the issue within a very short amount of time. Michaela agreed, noung that officers could only act once they are at the site and can see for themselves what was going on. Nadeine Dommisse also reiterated that one of the changes in addition to bringing compliance officers into the zone, was to look at streamlining processes, and acknowledged the concerns raised.

Moved: Allen Lin / Seconded: Cr laean Cranwell

That the commutee receives the report on Communication initiatives in the zone.

CARRIED

4. **PROPOSED SELWYN TE WAIHORA SEMINAR SERIES AT LINCOLN UNIVERSITY,** Ian Whitehouse, Environment Canterbury (*Refer pages 42 – 44 of the agenda*)

This item was discussed briefly earlier on in the agenda. The course of action agreed by the Committee was that there should be a seminar series held such as what was proposed in the paper; Ian Whitehouse will liaise with presenters and email members about names and dates.

It was noted that no dates had been set yet and there were two intercepting challenges determining the date. One was the availability of Lincoln University

venues and the other critical challenge was the availability of the people who would be speaking.

It was explained that the subjects would be run twice on the same day - at lunchtime and at night. During the day you would get students into the seminars and anyone working at the Uni, which could easily be done as a lunch-time presentation. In the evenings, a broader group of people may attend with possibility for more questions and engagement. It was acknowledged that question time could be difficult to manage and that the person chairing the seminars would have to be skilled.

Michaela Rees proposed having a topic around cultural values. The facilitator noted it would be weaved in through all the topics in the seminar. It was also agreed that there will be recordings of the presentations to be made available to anyone. Angus McLeod and his team will also support creating a video of the entire series. Ron Pellow reminded members that the University has the capacity to live-stream if that was an option for consideration.

Moved: Ron Pellow / Seconded: Victor Mthamo

That the committee agree to host a seminar series on Selwin Te Waihora land and water issues at Lincoln University.

CARRIED

5. **PROPOSED REGIONAL PEST MANA FEMENT PLAN, Chris Keeling and Verity** Halkett, Environment Canterburg (Refer pages 45 – 47 of the agence)

Ian Whitehouse explained that with both presenters absent due to ill health, he would take questions from the Committee and pass these on. Maree Goldring informed members that succentended going to a meeting at Little River and would be happy to take questions, here if members could email it to her beforehand.

The question resists by the committee was "what does the proposed Regional Pest Management Plan mean in terms of water management in Selwyn Waihora zone?".

6. **FACILITATOR'S REPORT,** Ian Whitehouse, Environment Canterbury (*Refer pages 48 – 52 of the agenda*)

Ian Whitehouse referred the Committee to the submission on the Clean Water Package as prepared by Environment Canterbury. He pointed specifically to the National Policy Statement for Freshwater Management proposal to require intermittently opening and closing coastal lakes and lagoons, such as Te Waihora, to meet the same bottom lines as other (freshwater) lakes. This had major implications for current limits set for Te Waihora and Environment Canterbury would be seeking an alternate approach.

lan also informed the Committee that it will receive two presentations at the June meeting, i.e. an update on water quality in the high country lakes in the zone and a

presentation from DOC on The Protected Natural Area (PNA) Programme in the Zone. John Benn (DOC) advised that the PNA presentation would have to be postponed as the presenter is not available for the June meeting.

Moved: Karaitiana Taiuru / Seconded: Cr Murray Lemon

That the committee:

- 1. Note the Environment Canterbury submission on the Government's Clean Water Pacakge; and
- 2. Note presentations scheduled for the 6 June zone committee meeting.

CARRIED

The meeting was closed at 5:15pm with a karakia.

DATED this	day of	2017		
CHAIR			2011	
ACTIONS FROM	MEETING	Ar.		
Name	Actic n	,		



11 May 2017

Emily Moore Fresh Waters PO Box 50 Woodend 7641 (via email)

Support for Snake Creek Restoration Project

Dear Emily,

This letter formally records the Selwyn Waihora Zone Committee's support for this project and application to the Freshwater Improvement Fund. This support is provided on the understanding that mana whenua will be involved in the governance and management of the proposed project.

The Selwyn Waihora water zone committee has adopted the goal of working towards making "Swimmable Selwyn@Coes Ford" happen.

Improving water quality in the Selwyn River/Waikirikiri is a key part of this. Silverstream catchment is the primary source of microbial contaminants to Selwyn River/Waikirikiri at Coes Ford. Snake Creek is a major tributary of Silverstream.

The Snake Creek Restoration project proposed for the Freshwater Improvement Fund will reduce sediment, phosphorus and microbial contaminants from Silverstream thereby contributing to improved water quality at Coes Ford.

The zone committee has supported biodiversity restoration and protection work in Silverstream catchment with Immediate Steps Biodiversity Funds. It expects to continue to support projects in Silverstream, including Snake Creek, with high ecological values such as wetland and springhead protection. These will complement the Snake Creek Restoration Project.

The zone committee thanks Emily Moore and others for developing this proposal and for keeping the committee well briefed.

Yours sincerely

Allen Lim Chair – Selwyn Waihora Zone Committee

Agenda Item No: 1	Subject Matter: Immediate Steps Biodiversity Fund Cave Stream Fencing project
Report to :	Date of meeting:
Selwyn Waihora Zone Committee	6 th June 2017
Prepared by:	Action:
Johannes Welsch	Reconfirm finding to this project

Action required

• The Zone Committee reconfirms its decision to allocate Immediate Steps Biodiversity Funding of \$26,571 to a fencing project at Cave Stream, Flock Hill Station (for Stage 1 and 2 of the project as the landowner has withdrawn the application for Stage 3).

Update:

- Flock Hill station only wants funding support for Stage1 and Stage 2 and has withdrawn the application for Stage 3. This is due to a recently revised farm plan which deems the contribution to Stage 3 as not viable for short- to mid-term.
- This reduces the Immediate Steps funding for the project by \$17,665 (from \$44,236 to \$26,571).

Background

At its 07 March 2017 meeting the Selwyn Waihora Zone Committee allocated Immediate Steps Biodiversity Funding to a fencing project near Cave Stream on Flock Hill Station in the upper Waimakariri Basin. Following this, a letter was received from the Upper Waimakariri Group questioning this decision. Concerns were raised by Department of Conservation staff at the 04 April committee meeting about the decision to fund the project with the Department, considering it would pave the way for Flock Hill Station to intensify land use near Cave Stream.

The Zone Committee's decision to allocate Biodiversity Funding to this project has received media coverage in the Selwyn Times, from Radio New Zealand and The Press.

The Zone Committee asked for the project to be re-visited at their May meeting. The committee considered the following matters in relation to their decision to fund the project:

- Flock Hill Station's withdrawal of an application to Selwyn District Council for a land use change consent for land near Cave Stream;
- Clarification within the ecological assessment undertaken for the project around the consideration of outstanding natural landscape values
- The concern around ongoing wildling pine/weed control commitment within the potentially protected corridor by the station and community groups.

1. Site visit by some zone committee members

The Selwyn Waihora Zone Committee asked for the delay of the final decision on the project until after a field trip and site visit on the 22nd May 2017. The site visit:

- Provided a first-hand experience of the proposed project site and the wider landscape
- Outlined the scale of the proposed project
- Highlighted the cultural values of Cave Stream to Ngai Tahu
- Provided an opportunity for the Zone Committee members to ask the farm managers anything in relation to the project and the farm management on site.
- Enabled an inspection of the areas of proposed fence line
- Inspection of the wilding pine controlled area first-hand
- See some of the biodiversity values associated with the project
- Showed the impact of Hieracium on native vegetation and soil
- Outlined wildling pine control, current status and future challenges
- Clarified land use intentions and stocking rates expected after the fencing was in place. This
 reduced committee concerns about impacts from intensified land use and clarified the likely
 visual impact of land use following fencing.
- The project area has an annual average of 2 stock units/ha/year

2. Cultural values of the site:

The project will not only support the protection of significant biodiversity values but also deliver protection of a culturally significant site. The location represents a significant *wāhi tapu* (sacred place to Māori) and *wāhi taonga* (sites that are significant to Māori).

Cave Steam's cultural importance has many layers of significance for Ngāi Tahu, which reflect in all facets of Māori life. To this day the region continues to be a key reminder of Ngāi Tahutanga that links us through history.

For Ngāi Tahu whānui Cave Stream was a highway to travel from east to west in order to trade for Pounamu, harvest and share Mahinga Kai, maintain Whānau connections and even provide safe passage in times of feuds. Perhaps less known in recent times is its significant Tohunga training presence. A **tohunga** is an expert practitioner of any skill or art, either religious or otherwise. Tohunga include expert priests, healers, navigators, carvers, builders, teachers and advisors. "A tohunga may have also been the head of a whānau but quite often was also a Rangatira and an Ariki. The equivalent and cognate in Hawaiian culture is *Kahuna."*

Ngāi Tahu relationship to this region is not one of ownership that' is consistent with western mindsets, rather it represents the ongoing relationship that can simply be described as one's blood relative. We belong to our environment and we're responsible for its well-being.

- Taha Tinana Physical Well-Being
- Taha Hinengaro Mental / Emotional Well-being
- Taha Whānau Social Well-Being
- Taha Wairua Spiritual Well-being

Whatungarongaro te tangata toitū te whenua - As man disappears from sight, the land remains This demonstrates the holistic values of the Maori, and the utmost respect of Papatūānuku, the mother of the earth.

3. Organisational, Ecological and Zone Committee risks associated with the project:

- Stage 1:Low risk Considering the recent wilding pine clearance has mostly cleared
remaining ecological values amongst the former pine site. The fence line marking
with be done with Environment Canterbury ecologists to mitigate any potential risks
identified through assessment processes.
- **Stage 2:** Low risk The fence will protect the freshwater biodiversity values of Cave stream and terrestrial biodiversity within the fenced wetland and meandering stream area.
- **Generally:** There is the possibility that support of this fencing project could lead to land use on adjacent farm land use changed, with possibly some terrestrial biodiversity loss in the adjacent farmed area. A consent would be required from Selwyn District Council for land use change, beyond that permitted as normal farming.

The association of using Immediate Steps funding to support fencing that some believe will result in (unwanted) change in land use in the high country carries the risk of being perceived in a negative light by some members of the public.

4. Concerns raised by the public

- Land use change / intensification of the terraces above Cave stream
 - Plough and/or cultivate the terraces
 - Agricultural runoff, sediment control and fertilizer or chemical application
- Immediate Steps funding decision without everyone having been to the site
- Benefit of Landscape assessment
- Risk association of IMS, Environment Canterbury and Zone Committee with fence project

5. Selwyn District Rules regarding the project

- The project is a permitted activity under the SDC rules
- -- In terms of intensification: the site is allowed to undertake farming/grazing as it always has.
- In terms of intensive livestock production: SDC has rules in the District Plan which govern this type of activity. Future requirements development depends on scale and stock. However, the area involved in the application is not improved pasture
- Any future land use intensification (according to SDC rules) adjacent to the project area would need a resource consent. It is highly likely that Selwyn District Council would require any application for a consent to intensify land use to include a landscape assessment.
- Earthworks are permitted in this area conditional to:
 - Rule 1.5 of the District Plan allows repair and maintenance of existing tracks, Post Holes and earthworks up to a maximum volume of 150m³ as a permitted activity. There is also a prescribed setback for earthworks from waterbodies which will need to be taken into consideration.

The participants of the field trip will be able to report back to the full Zone Committee members their experience and impression of the visual impact of the project within the landscape setting.

6. Environment Canterbury staff re-assessment of the proposed project

The project was re-visited by a terrestrial and an aquatic ecologist as well as Environment Canterbury Chief Scientist who recommended the project to be supported. Re-visiting the project's assessment resulted in the project receiving 32/39 points in the ecological assessment (compared with 31/39 in the original assessment). This scoring underlines the high biodiversity values within the project area.

In re-visiting the proposed project, three issues were raised in regards to the long-term protection of current biodiversity values in combination with the concerns raised by the Upper Waimakariri Group and DOC. The following points outline how the raised issues will be addressed to ensure biodiversity protection under the Immediate Steps fund:

- The actual fence line will be defined onsite with the land manager, lead ecologist, and biodiversity officer with the purpose of retaining a broad filter between grazed land and the protected area, and preventing heavy stock from entering. This will provide certainty that there will be no stock access to the gullies or steep banks with the aim to avoid erosion and increase the filtering efficacy of riparian vegetation
- 2. The land manager will outline and document, through their Farm Environment Plan for the project area, how the existing biodiversity values are being protected long-term considering the outstanding natural landscape values of the area
- 3. The clear commitment to Environment Canterbury by Flock Hill Station and community groups to maintain the woody weed and wilding pine control within the project area.

The project site has been revisited for further clarification around the buffer distance from the fence line to the river and wetland to achieve long-term biodiversity protection considering the adjacent stock grazed pastures. Long-term commitment was also secured from the Waimakariri Ecological and Landscape Restoration Alliance (WELRA) to work with Flock Hill on woody weed and wilding pine control across the project area.

Environment Canterbury staff recommend the Zone Committee reconfirms its support for the project as outlined below.

6. Project location map



7. Historical change of the landscape:

In summary, the wildling pine invasion in the late 1980s has altered the landscape and ecology within the vicinity of the Cave Stream Project location. The outstanding natural and national significant landscape features have slowly been invaded by exotic and introduced species, including wilding pine to the north of the project location, throughout the riparian corridor and the terraces. Recent wildling pine clearance efforts by the Ministry for Primary Industries, Department of Conservation and various high country stations including Flock Hill, has returned the landscape visually to I what it was back in the early 1980s.

8. Project Summary

Project statistics:

Approximately 3.7 km riparian corridor along Cave Stream up-stream from Parapet Rock with an average width of 80-100 m combined, including a 35 ha wetland. The total project area proposed to be protected covers 68 ha. The proposed protected area has and will continue to be under ongoing wildling pine control through the Ministry for Primary Industries and Flock Hill for the next three years, and continues to work with community groups around ongoing woody weed control in the proposed fenced of riparian corridor.

The project aim is to protect a waterway from farming activities, maintain a wide biodiversity buffer, and exclude any cattle from Cave stream with low level of stock protection.

Funding summary		
From ECAN	From Other Sources	Estimated Total (Applicant)
\$26,571.60	\$13,524.72	\$40,096.32

Funding (Stage 1 and Stage 2)								
Project Tasks	Funds Requested	Contributions from Other Sources	Totals					
Stage 1 – Fencing 2172m (wetland and stream)	\$15,768.72	\$8,123.28	\$23,892.00					
Stage 2 – Fencing 1488m (wetland 35ha and gully stream)	\$10,802.88	\$5,401.44	\$16,368.00					
Totals	\$26,571.60	\$13,524.72	\$40,096.32					

Project: Proposed Fence line map



Legend:

-	
Orange:	Stage 1 IMS
Pink:	Land owner
Blue:	Stage 2 IMS
Green:	Stage 3 IMS - withdrawn
Black:	State Highway and already existing fence



Topics to cover

- Trophic Level Index
- Submerged Plant Index
- Lake Snow

Update on "state' of lakes only. A detailed report analysing trends is currently underway.



Outcomes for high country lakes in the Land and Water Regional Plan



Trophic Level Index (TLI)

- TLI is an indicator of lake water quality specifically developed for NZ lakes by Burns *et al.* (2000).
- Total Nitrogen, Total Phosphorus, Chlorophyll-a (found in algae).
- Secchi disc not measured due to glacial flour affecting clarity.
- Higher TLI values indicate more nutrient enrichment, more algal production and lower water clarity.

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KEY		
TLI	Tropic state	General Description
	Ultra-	Practically pure, very clean, often
<1	microtrophic	have glacial sources
		Very clean, often have glacial sources,
1-2	Microtrophic	very low nutrient enrichment
		Clear and blue, with low levels of
2-3	Oligotrophic	nutrients and algae
3-4	Mesotrophic	Moderate levels of nutrients and algae
		Green and murky, with higher
4-5	Eutrophic	amounts of nutrients and algae
		Very High nutrient enrichment and
5-6	Surpertrophic	high algae growth
		Saturated in nutrients, highly fertile,
>6	Hypertrophic	excessive algae growth

Selwyn High Country Lakes Trophic Level Index (TLI)

										-			_
Location	2004-06	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Lake Sarah	2.62	2.84	2.82	3.24	3.42	4.04	2.88	2.81	3.19	2.93	2.94	3.32	
Lake Grasmere	2.44	2.92	3.09	3.31	3.21	3.65	3.36	3.11	3.11	3.22	3.26	3.47	
Lake Pearson	2.04	3.02	3.28	3.09	2.67	2.85	2.76	2.64	3.31	3.99	3.94	3.80	
Lake Hawdon	2.53	2.83	2.98	3.18	2.65	2.94	3.19	3.26	2.70	3.40	3.05	4.08	
Lake Lyndon	2.36	2.40	2.56	3.15	2.82	2.82	2.83	2.96	2.62	2.99	3.13	2.97	
Lake Georgina	2.86	4.64	4.25	3.59	3.54	3.65	3.35	4.04	4.94	3.85	4.27	4.03	
Lake Ida	2.18	2.37	2.43	2.59	2.78	2.76	2.45	2.54	3.19	3.11	2.97	3.81	
Lake Selfe	2.19	2.28	2.78	2.90	2.94	2.82	2.81	2.68	2.60	3.04	2.62	3.52	
Lake Coleridge	1.21	0.95	1.85	2.26	1.83	1.55	1.36	2.12	1.13	1.30	1.06	1.29	men burv
Sampled December- April/May													

3



Location		2015	2016	2017	LWRP outcome
L	.ake Sarah	2.93	2.94	3.32	3
Lal	ke Grasmere	3.22	3.26	3.47	3
La	ike Pearson	3.99	3.94	3.80	3
Lake Hawdon		3.40	3.05	4.08	3
Lake Lyndon		2.99	3.13	2.97	3
Lake Georgina		3.85	4.27	4.03	4
	Lake Ida	3.11	2.97	3.81	3
l	Lake Selfe	3.04	2.62	3.52	3
Lake Coleridge		1.30	1.06	1.29	2
	Meets LWRP objective Does not meet LWRP objective]		1@	Environment Canterbury Regional Council Kaunihera Taiao ki Waitaha

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Lake Submerged Plant Index (Lake SPI)

- Assesses the ecological health of a lake based on macrophyte (rooted aquatic plant) community. Incorporates two key measures:
 - Native Condition Index: This assesses the native character of lake vegetation based on the diversity and the extent of indigenous plant communities. Higher scores indicate a better, more diverse, abundant and deeper community.
 - Invasive Condition Index: This assesses the presence and abundance of exotic invasive plant communities. Higher scores indicate the community is more impacted by exotic species.
- Conducted ~5 yearly

LWRP

Table 1b Freshwater Outcomes for Canterbury Lakes

Management unit Natural ctate Large high country lakes Small to medium sized high country lakes Coastal lakes Artificial lakes - on-river	Dissolved Hypo- limnion Lakes are t	I Oxygen [min] (%) Epilimnion maintained in a na	Temp [max] (ºC) atural state	Lake SPI* [min grade] Excellent	Trophic Level Index (TLI)* [max score]	Colour	Suitability for contact recreation [SFRG]*		
Natural state Large high country lakes Small to medium sized high country lakes Coastal lakes Artificial lakes - on-river	Hypo- limnion Lakes are f	Epilimnion naintained in a n	- [max] (ºC) atural state	[min grade] Excellent	index [[L]]" [max score]	Colour	recreation [SFRG]*		
Natural state Large high country lakes Small to medium sized high country lakes Coastal lakes Artificial lakes - on-river	akes are i	naintained in a n	atural state	Excellent	2				
Large high country lakes Small to medium sized high country lakes Coastal lakes Artificial lakes - on-river	· · · · · · · · · · · · · · · · · · ·			Excellent	2				
Small to medium sized high country lakes Coastal lakes Artificial lakes - on-river					2		Good		
Small to medium sized high country lakes Coastal lakes Artificial lakes - on-river					Vāori Lakes and Lakes Emily, Emma and Georgina				
high country lakes Coastal lakes Artificial lakes - on-river					4		Good		
Coastal lakes				High	All other small to medium sized high country				
Coastal lakes Artificial lakes - on-river					lakes	The natural			
Coastal lakes Artificial lakes - on-river	70	90	19		3	colour of the			
Coastal lakes Artificial lakes - on-river					Coopers Lagoon/Muriwai	lake is not			
Artificial lakes - on-river				Moderate	4	degraded by	No volvo cot		
Artificial lakes - on-river					Moderate	Woderate	Woderate	wouerate	Moderate
Artificial lakes - on-river					6	Munsell Units ^(a)	l .		
				High	3		Good		
						1	Suitable for		
Artificial lakes – others	20	Suitable for the	e purpose of	the lake	4		the purpose		
							of the lake		

Lake	2010	2012	2013	2014	2015	Condition
Coleridge				91%		Excellent
Evelyn				64%		High
Georgina					42%	Moderate
lda	75%					High
Lyndon			66%			High
Pearson			56%			High
Selfe				57%		High
Grasmere		40%				Moderate
Sarah		46%				Moderate
Hawdon		86%				Excellent
Score = LakeSPI Category			Meets	s LWRP objecti s not meet LWR objective	ve P	
>50-75% = High >20-50% = Moderate >0-20% = Poor					4@	Environme Canterbury Regional Court

Lake SPI

>50-75% = High
 >50-73%
 Ingit

 >20-50%
 =
 Moderate

 >0-20%
 =
 Poor

 0%
 =
 Non-vegetated

Lake Georgina

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Lake snow

- Sticky, mucus-like polysaccharide material produced by the algae *Lindavia intermedia*
- Is non toxic and has no known human health risks
- Could be considered the 'lake' equivalent of didymo



Lake snow in Stevensons Arm, Lake Wanaka

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Risks to Canterbury Region??

- Large, deep, clear lakes at greatest risk of lake snow incursion.
- Confirmed presence in Lake Coleridge (2012)

Effects of lake snow

- Accumulating on fishing lines and fouling of fishing gear
- · Blocking of boat water intake filters
- Blocking of filters on household domestic devices and filters attached to reticulated water supply drawn from the lake
- Undesirable conspicuous accumulations of the material at the waters surface





AGENDA ITEM NO: 4	SUBJECT MATTER: Update on Te Waihora Co-Governance Group related matters
REPORT BY: Stefanie Rixecker and Tim Davie, Environment Canterbury	DATE OF MEETING: 06 June 2017

Action required

The committee note the update on Te Waihora Co-Governance Group related matters.

Background

Recent activities undertaken by the Te Waihora Co-Governance Group include the following:

- 1. **Delivery of the Whakaora Te Waihora programme**. The Whakaora Te Waihora Work Plan 2016/2017 continues to be delivered. Key achievements include:
 - For the trial establishment of macrophyte beds, macrophytes and artificial habitats have been established behind the first wave barrier, and a second wave barrier will be in place by 30 June.
 - An updated nutrient model for Te Waihora has been developed by Professor David Hamilton, which can be used to test scenarios for in-lake interventions.
 - Willow control is progressing. Through co-investment with Environment Canterbury Immediate Steps funding over the last few years, willows have been largely controlled on the eastern shore of Te Waihora. Current and future efforts are focussed on the western shore.
 - For the Kids Discovery Plant-Out (delivered by Te Ara Kākāriki), there is ongoing plant-maintenance and school engagement at 12 sites that have been planted by students.
 - Te Repo Orariki (Taumutu Wetlands) continues to be maintained, and bridges have been constructed by Te Taumutu Rūnanga.
 - Plans are underway to plant riparian sites along Waikekewai Stream and Hart's Creek.
 - Regular stories were added to the programme's website <u>http://tewaihora.org/ourstories/</u>, and on the programme's Twitter account (@tewaihora)
- 2. **Submission to the Government's Freshwater Improvement Fund**. An application has been submitted to the Government's Freshwater Improvement Fund for a constructed wetland at Ahuriri Lagoon.
 - The proposed project will: Incorporate recent research by NIWA on using wetlands to reduce nutrient and sediment flows; and, use significant existing community support for restoration;
 - To: Build on remaining areas of wetland habitat in Ahuriri Lagoon through converting current grazing land, adjacent to existing wetland vegetation, into a constructed wetland fed by the Huritini/Halswell River that will improve water quality via the attenuation of nutrients and sediment; and, create an open water area designed as a mahinga kai with adjacent riparian planting, restoring the Lagoon's function for Ngāi Tahu.

AGENDA ITEM NO: 5	SUBJECT MATTER:
	CWMS Target: Recreation and Amenity Opportunities
	River and Lake Swimming in the Canterbury Region
REPORT BY:	DATE OF MEETING:
REPORT BY: Dann Olykan, Anita Fulton, CWMS	DATE OF MEETING: 06 June 2017

Purpose

 The Regional Water Management Committee's Recreation and Amenity Working Group (RAWG) is seeking feedback from Zone Committees on the rivers and lakes across Canterbury that have been identified as their local freshwater swimming sites in the 'River and Lake Swimming in the Canterbury Region' draft report.

Background

- 2. The recreation and amenity targets in the Canterbury Water Management Strategy (CWMS) aim to see "an increase in the percentage of the lake and river sites used for contact recreation that meet recreational water quality guidelines", and "a positive trend in the availability and/or quality of recreational opportunities in each zone".
- 3. Some progress has already been made in quantifying the extent and state of recreational opportunities in Canterbury, including comprehensive reports on jet-boating and kayaking on Canterbury rivers, and data from Fish and Game's annual angling surveys that inform our progress on monitoring.
- 4. The River and Lake Swimming in the Canterbury Region draft report further builds on understanding the availability, characteristics and quality of recreational opportunities across the region.

Action Required

- 5. The Zone Committee is asked to check the accuracy of the local freshwater river and lake swimming sites identified for their region (Appendix 1) and using local knowledge provide details of any omissions from the list, including the characteristics of the site (refer to the primary attributes in Appendix 2).
- 6. Feedback is required by early June to enable RAWG to present the final report to the Regional Committee on 13 June 2017.

Appendices

- 1 Freshwater river and lake swimming sites in the Selwyn-Waihora zone.
- 2 Primary attributes used for assessing freshwater river and lake swimming sites in Canterbury.

1-1														29
			Physica	al attributes	Water	quality aspects (Note that if a ver	ry high corr G&H then ju	st G)	Environment	User	rs	Facilities 8	& Access	
			Swimming holes	Variable water depth	Algae and- or weed (aesthetic appeal)	Toxic Algae	Water Quality	Water clarity	Surrounding Environment	Origin of users	Level of use	Facilities	Access	
			Max water depth	Morphological variability	G/lines compliance			Horizontal visibility	Overall rating		No swmrs/ peak day	Presence facilities	Public or Private	
			1<2m, 2=2- 3m, 3>3m	1=low, 2=med, 3=high	1>50%, 2=25-50%, 3<25% (maximum coverage)	0= 100% likelihood of toxic algae present (above 20% coverage); 1= either 2-4 times in 5 year period, or more than 2 months in swimming season; 2= either once in every five years, or short bloom affecting >1month of swimming season; 3= never been observed above 20% coverage	0= consistently very poor or poor (5/5 years); 1= at least 4/5 years fair; 2= consistently fair; 3= consistently good or very good	1<1.6m, 2=1.6-3m, 3>3m	1=low, 2=mod, 3=high	0= no known swimmers 1= family/ friends and locals; 2= tourists; 3=locals and tourists	0= Typically no one; 1=few (<10), 2=mod (10-20), 3=many (>20)	1=nothing, other (but no toilet), 2=toilet only, 3=toilet + other	0= no public access; 1=access across private land; 2=public walking (or off road vehicles); 3=public road and walking	Comment
Catchment, river or lake name	Reach (*= Listed in L&WRP as a swimming site)	Environment Canterbury comments about monitoring locations and observations	EP estimate	EP estimate	ECan data + EP estimate	ECan data + EP input	ECan SFRG assessment (rainfall adjusted) and EP & perceptions (in red)	EP estimate	EP estimate	Survey data + EP	Survey data + EP	Survey data + EP	ECan data and EP	Associated values and Hazards - from the EP assessment. Note this is not an exclusive list of either.
Rakaia River	Gorge		3	3	3	3	3	1	3	3	3	3	3	<u>Other values:</u> Jet boating, salmon fishing. <u>Hazards</u> : boats, big river
Waimakariri River	Upper to & including gorge bridge		3	3	3	2	3	3	3	3	2	3	3	<u>Other values</u> : salmon fishing, boating. <u>Hazards</u> : boats, big river
Waimakariri lakes	Lake Lyndon	no data for variables	3	2	3	3	3	3	3	3	2	3	3	<u>Other values</u> : Fishing and camping and boating. <u>Hazards</u> : boats
Waimakariri lakes	Lake Pearson	no data for variables	3	2	3	3	3	2	3	3	1	3	3	<u>Other values</u> : Fishing, boating and camping. <u>Hazards</u> :
Waimakariri River	McLeans Is to Old Highway Bridge		3	3	3	2	0	2	2	1	3	3	3	Other values: Jet boating, salmon and trout fishing, off-road vehicles. <u>Hazards</u> : Rock groynes and willows, vehicle security, boats
Waimakariri River	Mid to above McLeans Is		3	3	3	2	1	2	2	1	3	1	3	Other values: Jet boating, salmon and trout fishing, off-road vehicles. Hazards: Rock groynes and willows, vehicle security, boats
Selwyn River	Glentunnel area Upper - Glentunnel		1	3	1	0	2	3	3	3	2	3	3	Other values: Camping. Hazards: Willows, toxic algae Other values: Camping. Hazards:
Selwyn River	and above*		1	3	1	0	2	3	3	1	3	3	2	Willows, toxic algae Other values: Boating and salmon
Rakaia River	Above the gorge Chamberlains		3	3	2	3	3	1	3	1	1	3	3	and trout fishing; endangered birds. <u>Hazards</u> : Big river, boats <u>Other values</u> : Man made swimming
Selwyn River	Ford* Whitecliffs and		1	1	2	2	3	3	2	1	2	3	3	hole. <u>Hazards</u> : Other values: Camping. Hazards:
Selwyn River	above		1	3	1	0	2	3	3	1	2	3	3	Willows, toxic algae Other values: Camping. <u>Hazards</u> :
Selwyn River	Coes Ford *		1	1	2	1	0	3	2	3	2	3	2	Willows, Low flows, Toxic algae
Coleridge lakes			3	2	3	3	3	3	3	0	0	3	3	<u>Other values</u> : Trout fishing. <u>Hazards</u> : <u>Other values</u> : Salmon and trout fishing, Jet boating. <u>Hazards</u> : Boats, Willows, irrigation intakes
Rakaia River	Lagoon		2	2	3	3	0	1	2	1	2	5	3	Other values: Salmon and trout fishing, Boating. <u>Hazards</u> : Boats, big river, river mouth

														Other values: Salmon and trout fishing let hoating Hazar do : Big
	Below Gorge to	recorded at SH1 in north												river, willows, boating, intake and
Rakaia River	SH1	channel	3	3	3	3	0	1	2	1	1	1	3	bridge structures
														Other values: Hazards: Willows,
L2 River	Pannetts Rd	No data?	3	1	2	3	1	2	2	1	0	0	1	Steep banks
Te Waihora L														Other values: Boating. Hazards:
Ellesmere	Timberyard Point		1	2	1	0	0	1	1	1	0	3	3	Water quality warnings
		Upper huts. Algae and Water Quality - at Lakeside												<u>Other values</u> : <u>Hazards</u> : Water quality
Selwyn River	Below Coes Ford	Domain	1	1	1	2	0	1	1	1	0	1	2	warnings
ZC workshop additions														

Appendix 2

River and Lake Swimming in the Canterbury Region: Application of the river values assessment system (RiVAS)

The set of primary attributes used, their indicators, and thresholds of importance for assessing freshwater swimming sites in Canterbury are shown in the following table.

Primary attribute	Indicator	Indicator significance thresholds
Level of use	Number of swimmers on a peak use day – separated	0= typically no one
	into categories	1= <10 (low)
		2= 10-20 (medium)
		3= >20 (high)
Origin of	Three categories (other than 'no known users):	0= no known users
users	- Family/ friends	1= family/ friends and locals (low)
	- Locals	2= tourists (medium)
	- 10011515	3= locals and tourists (high)
Presence of	Presence/absence of facilities: toilet(s), camping	1=nothing + Other (if not a toilet) (low)
facilities	area, BBQ, playground, swimming hole	2=toilet only (medium)
		3=toilet + other (high)
Public	Public or private access and type	0= no public access
access		1=access across private land (low)
		2=public walking (medium)
		3=public road and walking (high)
Surrounding	Perception from a user perspective of surrounding	1= low/ poor
environment	environment.	2= medium/ moderate
	and/or highly modified; Moderate = slightly modified; high= high naturalness, biodiverse	3= high/ excellent
Swimming	Maximum water depth (m)	1= <2 m (low)
holes		2= 2-3m (medium)
		3= >3 m (high)
Variable	Morphological variability	1= Low
water depth		2= Medium
		3= High
Algae and or	Compliance with national periphyton guidelines:	1= >50% (low)
weed	1= >50%, 2= 25-50%, 3= <25% (maximum coverage)	2= 25-50% (medium)
appeal)		3= <25% (high)
Blue-green	Likelihood of toxic algae present (above 20%	0= 0
algae: toxic	coverage)	1= low
algae	1= 100% 1= either 2-4 times in 5 year period, or more than 2 months in	2= medium
	swimming season (low)	3= high
	 2= eitner once in every five years, or short bloom affecting >1month of swimming season (medium) 	
	3= never been observed above 20% coverage (high)	
Water	Compliance with ANZECC (2000) guidelines:	1= low
clarity	(low)	2= medium

Primary attribute	Indicator	Indicator significance thresholds
	2= 1.6-3.0 m horizontal visibility when river is below median flow (medium) 3= >3.0 m horizontal visibility when river is below median flow (high)	3= high
Overall water quality	Combination of science monitoring, EP and survey perceptions leading to: 0= consistently very poor or poor (5/5 years) 1= at least 4/5 years fair 2= consistently fair 3= consistently good or very good	0= very poor 1= low 2= medium 3= high

AGENDA ITEM NO: 6	SUBJECT MATTER:				
	CWMS Target: Recreation and Amenity Opportunities				
	Priority recreation and amenity restoration sites				
REPORT BY:	DATE OF MEETING:				
Dann Olykan, Anita Fulton, CWMS	06 June, 2017				

Purpose

The Regional Water Management Committee's Recreation and Amenity Working Group (RAWG) is seeking from each Zone Committee a list of up to five of their top priority recreation or amenity restoration sites for action in their region.

Background

At its March meeting, RAWG discussed the CWMS targets for recreation and amenity opportunities and progress being made towards meeting these targets. One of the outcomes from this discussion was a desire to gain a better understanding of what the priority recreation or amenity restoration sites are within each zone. Priority recreation or amenity restoration sites include those sites that the local community sees as having outstanding cultural or natural importance that need to be protected or enhanced for future generations.

RAWG is asking each Zone Committee to identify up to five of its top priority recreation or amenity restoration sites within its zone and identify key actions to better protect or enhance each site.

RAWG will consider the list of priority sites across the region and present it to the Regional Committee so that they can understand the diversity of the priority sites that require action and advise the Zone Committee on how it can best support the implementation of these actions.

Action required

Zone Committees are asked to provide RAWG with a list of up to five of its top priority recreation or amenity restoration sites in its region.

Information that RAWG is seeking includes:

- the name and location of the recreation or amenity restoration site;
- a brief description of its importance to the community;
- outcomes the community would like to see achieved; and
- proposed actions to achieve these outcomes.

Information can be forwarded to Anita Fulton by the end of June 2017.

The Regional Committee will then work with Zone Committees on how it can best support the implementation of these actions.

AGENDA ITEM NO: 7	SUBJECT MATTER: Proposed Selwyn Te Waihora seminar series
REPORT BY: Ian Whitehouse, Environment Canterbury	DATE OF MEETING: 06 June 2017

Action required

The committee notes the dates for the seminars and put these in diaries.

Selwyn Waihora Seminar Series

Seven seminars at Lincoln University hosted by the Selwyn Waihora Zone Committee and moderated by Sue Jarvis (Lincoln University).

The seminars will be fortnightly starting on Thursday 22 June 2017.

Each seminar will be provided twice – once at lunchtime (midday to 12.50pm) and once in the evening (7.30 - 9.00pm).

The venue (D6 in the Landscape Building) seats 30, with the doors open more.

A range of people will present the seminars. Not all have been confirmed.

The seminars will be widely advertised and promoted. More details of this will be provided. Supporting material will be prepared for participants and social media.

Dates, topics and presenters (further details on content are provided after the table):

	Date	Торіс	Presenter	Lincoln Un venue*	iversity
				lunchtime evening	
1	22 June	Land and water issues – what and how we got here	Ken Taylor (Our Land and Water Science Challenge); David Perenara-O'Connell (Taumutu Rūnanga)	D6	YFC
2	06 July	Water quantity	To be confirmed: Dan Clark and Zeb Etheridge (ECan)	D6	D6
3	20 July	Water quality	Melissa Robson (Landcare Research)	D6	D6
4	03 August	Te Waihora/Lake Ellesmere	Tim Davie (ECan) and David Perenara-O'Connell (Taumutu Rūnanga)	D6	D6

5	17 August	CPW (Central Plains Water)	Susan Goodfellow (CPW)	D6	D6
6	31 August	Farming to limits in Selwyn	Ron Pellow (South Island Dairy Development Centre) and someone from Foundation for Arable Research	D6	D6
7	14 September	A first step what more needs to be done	Panel discussion	D6	D6

* D6 is in the Landscape Building; YFC is the Young Farmers Club Room

Outline of seminars (presenters will modify)

1 Land and water issues in the Selwyn Te Waihora catchment – what and how we got to the current situation

- Welcome and introduction from Taumutu rūnanga
- Introduce the big issues:
 - Low flows in streams and rivers;
 - Increasing nitrate levels ;
 - High microbial levels and toxic algae blooms at some swimming sites;
 - Deterioration in Te Waihora Change in land use over time.
- Introduce the different "interests" and what they want:
 - Ngai Tahu;
 - Recreation fishing, swimming
 - Irrigators and intensive farming.
- Provide context of land and water management from 1950s to 2015 including:
 - Water allocation in early 2000s allowed under NRRP (Natural Resources Regional Plan)
 - Changes in rural economy and employment
 - Changes in District population and to small rural towns like Leeston, Dunsadel and Darfield (and perhaps contrast the towns with other rural towns in Canterbury – Hawarden and Culverden, or elsewhere – Wairoa, Northland).

2 Water quantity – rivers, lowland streams and groundwater in Selwyn Te Waihora

- Explain groundwater surface water system
- Selwyn River/Waikiriri drying reaches
- Contributions from Rakaia and Waimakariri Rivers
- Variations in rainfall and evaporation (and likely impact of climate change)
- Irrigation demand and local and cumulative impacts
- Current rules and limits on water takes

3 Water quality in Selwyn Te Waihora waterways and groundwater

- Cover all contaminants N, P, sediment and microbial contaminants
- Current water quality
- Impact of nitrate "in the post"
- The challenge of setting a catchment N load for farming
- Current rules and limits

4 Te Waihora/Lake Ellesmere

- Te Waihora and Ngai Tahu
- A healthy lake and its margins fisheries, bird life
- Lake quality and what drives this (including legacy P, impact of Wahine storm)
- Lake levels and lake opening (including likely impact of sea level rise)
- What is being done and what more is needed to rehabilitate Te Waihora

5 CPW (Central Plains Water)

- CPW consent application history (as granted by the time new rules and limits being developed)
- Overview of scheme and stages (including Lake Coleridge storage, land use mix)
- What the conditions of CPW's water take, water use and nutrient discharge consents mean (e.g. NDA, audited FEPs, Environment Fund, ground water monitoring . . .)
- Impact on groundwater volume and lowland streams (from replacing GW takes)
- Impact on N load to lake and nitrates in shallow GW/lowland streams and how CPW shareholders are "farming to limits".

6 Farming to limits in Selwyn Waihora

- Overview of Selwyn Te Waihora Plan Change requirements for farming
- Reducing nutrient losses while retaining financial performance:
 - Dairy farming
 - o Arable farming

7 A first step – rules, limits and other actions in place: what more needs to be done

- Summary of what rules and limits are now in place for managing water flows and allocation and water quality in Selwyn Te Waihora;
- Summary of other key actions underway or proposed (e.g. lake interventions)
- Panel discussion on what else is needed
- Indicate to people what they can do to help improve water management.