

Notes from the Mini-Conference on Avon River Red Zone Projects

A five hour forum for members of multi-agency project teams working on proposals for the Avon River Residential Red Zone (RRZ) and related lands to provide for:

- Information sharing with regard to the current status of project plans: to ensure optimum communication and sharing of information within and between project teams
- Briefing on hydrology, drainage, sea level rise and flood risk, etc of the lower Avon – especially with regard to the implications, options, and solutions for the various RRZ projects: to ensure projects are progressed on the basis of a realistic understanding of the underlying hydrological constraints
- Exploration of and agreement on collaborative governance model(s) for multi-agency project teams working on RRZ projects: to ensure optimum collaboration and integration with regard to multi-agency project planning, resourcing, process, management, and implementation

Held: 9:30am – 2:30pm, 1 March, Te Awaroa, Te Ao Marama Building, UC

Mihi: Te Marino Lenihan, Earthquake Recovery, Te Rūnanga o Ngāi Tahu

Facilitator: Chrissie Williams, Programme Leader, Natural Environment Recovery Programme, Environment Canterbury
Member Eastern Vision Steering Group

Attendees: See Appendix 1. Introductions were undertaken at the start of the event.

Documents: Copies of the documentation can be opened or downloaded from here:
<https://www.dropbox.com/sh/lvqqzidi9m7z81c/skiMKghwMy>

Session One: Update from 4 Key Projects

Refer to: *AvON 1 March morning.pdf* (for presentations on Riverside Heritage Garden Park, Eco-Sanctuary and Flat Water Sports Lake)
MahingaKaiExemplarProjectNotesWorkshop20Nov2013.doc (for more information on the Mahinga Kai Exemplar Project)

Notes from Mahinga Kai Exemplar presentation from Te Marino:

Mahinga kai is not just about food but also about places and resources and the relationships of people with those places and how those relationships can sustain us for generations.

The biggest block of land sold to the Crown by Ngāi Tahu was in Canterbury, however in addition to the eight contracts for the land there was a ninth, a special reservation that mahinga kai would remain with Ngāi Tahu.

Ngāi Tahu remain relatively ‘invisible’ in Christchurch but what is retained is the relationship with mahinga kai and a role championing the protection of these places.

The Mahinga Kai Project is one of 17 projects identified in the Natural Environment Recovery Programme (NERP). We have been looking for a great spot to set an example for the recovery: Anzac Drive Reserve – an exemplar of what we hope to achieve for the whole Avon River corridor and beyond – “from the mountains to the sea”.

Inanga / whitebait as one of the flagship species – kai for both pakeha and tangata whenua.

Goal: to get water quality to a standard that it is good enough that our elders will eat from.

A Summary of the Projects:

Please refer to Figure 1 Project Teams and Table 1 Projects Summary:

Figure 1: Project Teams

A loose depiction of the composition of project teams

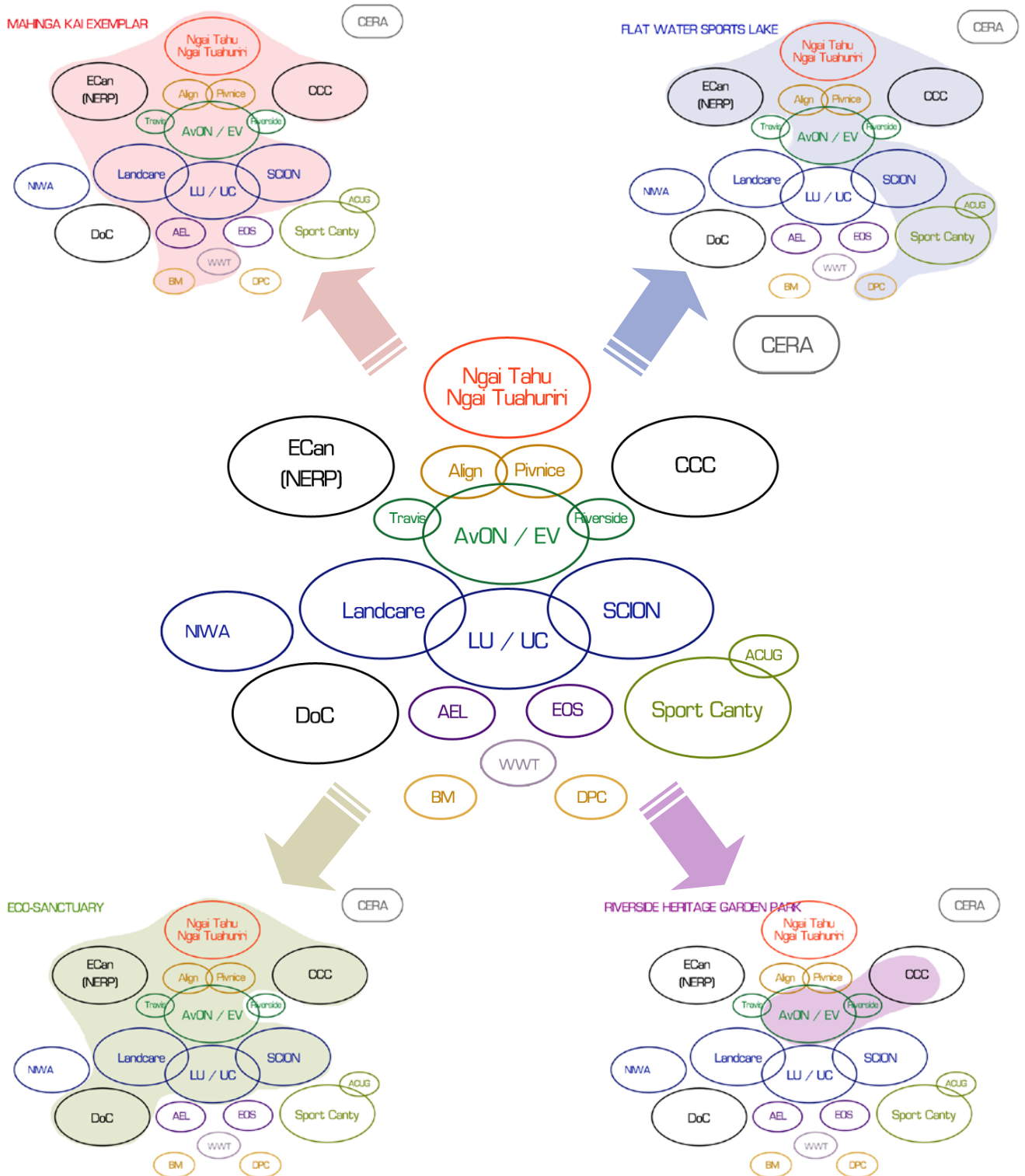


Table 1: PROJECTS SUMMARY	Mahinga Kai Exemplar	Riverside Heritage Garden Park / Heritage Trail	Eco-Sanctuary	Flat Water Sports Lake
Presenter	Te Marino Lenihan	Mark Christensen	Colin Meurk	Chrissie Williams
Proposed Location	Anzac Dr Reserve	Riverside block, Richmond / River corridor	Burwood/Travis	Horseshoe Lake/Dallington
Primary Contacts	TeMarino.Lenihan@ngaitahu.iwi.nz ; evans@qegroup.ac.nz	mark.christensen@andersonlloyd.co.nz	amcdonald@doc.govt.nz ; MeurkC@landcareresearch.co.nz	Chrissie.Williams@ecan.govt.nz
Current Project Status	<ul style="list-style-type: none"> • Scoping document produced; • Initial Project Team established and expanding to include local schools; • Drainage constraints being defined; • Legal status and consent to proceed in process; • Does not depend upon Red Zone decisions to proceed; • <u>Potential Early Win.</u> 	<ul style="list-style-type: none"> • Proposal plan nearing completion including landscape concept plan; • Incorporated Society established; • Drainage constraints being defined (Dudley Creek); • Informal agreements with CERA in place to protect and maintain some natural, garden and built heritage; • Heritage Park depends on Red Zone decisions to proceed; • Heritage Trail components eg Englefield Lodge depend upon heritage restoration efforts. 	<ul style="list-style-type: none"> • Concept document produced; contractor engaged to develop into publishable; • Funding for Feasibility Study secured; • Project Team established; • Drainage constraints being defined; • Travis element could potentially proceed before Red Zone decisions; • Burwood component depends on RRZ decisions to proceed. 	<ul style="list-style-type: none"> • Scoping document produced; • Project team yet to be fully established; • Drainage and hydrology constraints being defined; • Depends upon Red Zone decisions to proceed
Next Steps	<ul style="list-style-type: none"> • Definition of Drainage constraints completed; • Design projects with local schools undertaken; • Specification of aquatic and terrestrial ecological requirements • Concept Plan produced • Legal status clarified and consent to proceed in place • Appointment of a Project Manager • Funding sourced 	<ul style="list-style-type: none"> • Definition of Drainage constraints completed; • Proposal plan completed; • Consolidate agreements with CERA; • Progress restoration of heritage elements of Trail; • Promote project while awaiting RRZ decisions. 	<ul style="list-style-type: none"> • Definition of Drainage and Flood constraints completed; • Feasibility Study and Business Case undertaken; • Promote project while awaiting Red Zone decisions. 	<ul style="list-style-type: none"> • Project Team established; • Explore integration with other recreational projects eg white water facility, cycleways and pathways, etc; • Definition of Drainage and Hydrogeology constraints completed; • Feasibility Study and Business Case undertaken; • Promote project while awaiting RRZ decisions.

Session Two: Briefing on Flood Risk and Drainage

Presenter: Mike Gillooly, Land Drainage Operations Manager, CCC

Refer to: *Avon Otakaro Flooding in Christchurch Council 1 March 2014.pdf*

Notes:

Mike was Design Manager Infrastructure Recovery following September 2010 quake which after February 2011 transitioned to SCIRT. He continues to have a strategic role at CCC around land damage and drainage, was responsible for procurement of LIDAR surveys and modelling of flood risk.

Previously flood modelling was done using 'pretty clunky' 1-dimensional technology – not so now. Modelling uses stopbank tops set at 11.2m above Chch datum (was designed for 1:100 year event – based on sea level rise of 0.5m). There has been an immediate operational need to understand water levels to inform appropriate floor levels.

CCC's Land Drainage Recovery Programme sits outside SCIRT. Much of Christchurch is built on coastal and low lying land with a high degree of urban development.

Timeline:

- 1860 Lowland forest felled and swamps drained for planting crops. Refer to 'black map' slide for an appreciation of the original environment.
- 1870s High infant mortality due to water-borne diseases – clean drinking water and - 1880s disposal of sewage were the main priorities
- 1940 There was a tolerance of flooding; surface water was not a priority.
- 1960s Recurrent flooding sea change in public mood – with increasing focus in need to address surface water drainage issues through the Chch Drainage Board
- 1970s Very wet decade in Chch with 2 x 1% AEP events (Annual Exceedance Probability = 1 in 100 year flood) increasing pressure to address.
- 2010/11 Dudley Creek catchment, one of the biggest flood risk areas (floods in 1 in 10 year events) is at much more significant risk now post-earthquakes with subsidence of 0.6+m in the area. As evidenced by the effect of a 1 in 10 year event in June 2013 *[not to mention what happened two days after this presentation!]*

There is a great deal more flooding now where Dudley Creek joins the Avon at River Road / Banks Ave and flooding is also more significant at Stapletons Rd and around Harrison Street, Carrick St and the Flockton 'Cluster'.

Earthquake Impacts:

- Tilting of the estuary (lower in the north and higher on the south);
- river channel narrowing;
- streambed heave;
- land damage;
- network damage to stormwater system and very significant damage to sewer network.

Flooding and Responses

- Regulatory Framework and EQC categories
 - Regulatory Framework: Management of natural ponding areas and sea level rise
 - Building Act and natural hazards
 - floors above 1:50 year floods
 - flooding to land >0.4m = hazard notice
 - Resource Management Act and CCC District Plan flood management areas
 - floors above 1:200 year floods. Note: difference to Building Act
 - Issue: Natural function of flood plains restrained by urban development
 - EQC categories: Categories 8 and 9 increased flooding vulnerability
 - Increased flooding and liability
 - building platform
 - catchment changes
 - Response options
 - compensation paid
 - individual property solutions
 - community wide stormwater solutions
 - CCC Floor levels:– takes into account current Avon River stopbank heights
<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/districtplanning/cityplan/proposedvariations/operativevariation48.aspx>
 To avoid Hazard Notice must raise floor level AND mitigate flooding to land.
- Land Drainage Recovery Programme
 - Objectives: (\$130M outside SCIRT budget)
 - Prioritised programme of investigations
 - Determine an appropriate response
 - Physical works
 - Adaptive management
 - Prioritise and initiate physical works eg \$10-15M for Flockton basin [*may have changed now!!*] and relocation of stopbanks but more projects than \$\$\$
 - Investigations and works:
 - Sediment management and silt clearance
 - Drains – repair and renewal
 - Groundwater and springs
 - Inflow and infiltration (from sewers)
 - Storm event management (defining a better operational response)
 - SCIRT Responsibilities:
 - Gravity pipe network
 - Rising mains
 - Laterals in road corridor
 - Manholes, sumps, inlet and outlet structures
 - Pump stations and equipment
 - Ancillary structures and equipment ie hard engineering
 - Excluded from SCIRT:
 - Private stormwater laterals
 - Repair of drains
 - Rivers, riverbeds and stopbanks
 - Detention basins and treatment facilities
 - Waterway structures
 - Hydrometric assets
 - Development of models
- Christchurch District Plan – Variation 48

What is CCC doing?

- Initial Response:
 - Remove silt (since April 2013 5,000 m³ removed from Dudley Creek)
 - Topographic Surveys
 - Catchment-wide upgrades: widening and deepening channels of Dudley Creek near Avon, removing private bridges and considering other structures eg culverts that impose restrictions on flow
 - Pump Stations
 - Storage
 - Bypasses and diversions
 - House raising
- Discussion on Dudley Creek options at Riverside Heritage site: no capacity for flood detention but capacity for wetland enhancement of water quality and stream bed.

Rivers & Streams

- Where possible seek room to widen to accommodate a flood channel
- Improve bank works
- Base on 6 values: Drainage, Ecology, Landscape, Recreation, Heritage, Culture
- Red Zone Issues & Opportunities:
 - Minimise reconstruction costs
 - Stormwater treatment opportunities
 - Pump station decommissioning strategy (eg Archimedes Screws at Horseshoe Lake)
 - Temporary stop banks over 1, 3, 5, 10 year horizons (leak and not pretty, have to be monitored for slumping – budget: \$345k p/a to maintain and upgrade)
 - Road closures and stop bank strategy
 - Daylighting piped outfalls > opportunities to ‘polish’ water
 - Wastewater siphon extensions
 - Drainage impacts of recreational proposals
 - ↳ Engaging with CERA (who is not yet ready for conversation [may have changed now!])

River & Tidal Flood Protection

Operative district plan:

Defined Flood Management Areas: Protecting property by raising minimum floor levels over time

District Plan review – flood management Canterbury Regional Policy Statement

Need to take account of

- Climate change and sea level rise
- Avoid new development where high hazard (1:500 event)

Flood extent maps pp 31 -33 of pdf

What does river & tidal protection look like? Stop banks and flood walls (including potentially highly engineered solutions). Barrage at mouth of estuary – feasible? What if fails?

Regional Policy Statement requires an Adaptation Strategy with respect to Sea Level Rise

Session Three: Governance of Avon River Projects

Presenters: Dave Goodman and Mark Christensen, Anderson Lloyd Lawyers

Refer to: *AvON 1 March Afternoon.pdf*

Notes:

[NB: As I was not able to attend some of this session I have here reproduced Chrissie's notes from the whiteboard – please read in conjunction with the pdf - Evan]

Mothership

- Funding ??
- Masterplan integrate projects
- Operational support for projects

Avon-Ōtākaro Network?

Eastern Vision?

[These two options for this role were removed after Evan said that neither had the capacity to become the body administering a multi-million dollar budget. This was then subsequently qualified by email as follows:

“The term ‘mothership’ was used in the last presentation and a number of different roles came to be associated with it...When I said that neither AvON nor Eastern Vision wanted to adopt the ‘mothership’ role I meant in terms of evolving into a Trust with a fund-sourcing and fund-holding role administering multi-million dollar budgets.

“However both organisations do have at the core of their kaupapa, roles in facilitating an overarching vision for their respective geographical areas (AvON for the Avon River Red Zone and Eastern Vision for the east as a whole). In this regard both see themselves as advocating for such an overarching vision, enabling the integration of projects into the bigger picture, and facilitating the engagement of communities in processes to define the guiding principles, individual components, spatial plans and road maps that will in turn set the funding priorities of any fund-holding Trust so that the agreed ‘grand design’ can be implemented. Each also sees themselves as having a role in monitoring the implementation with respect to this. So in this sense yes, both organisations do see themselves as having a significant ‘mothership’ role.”]

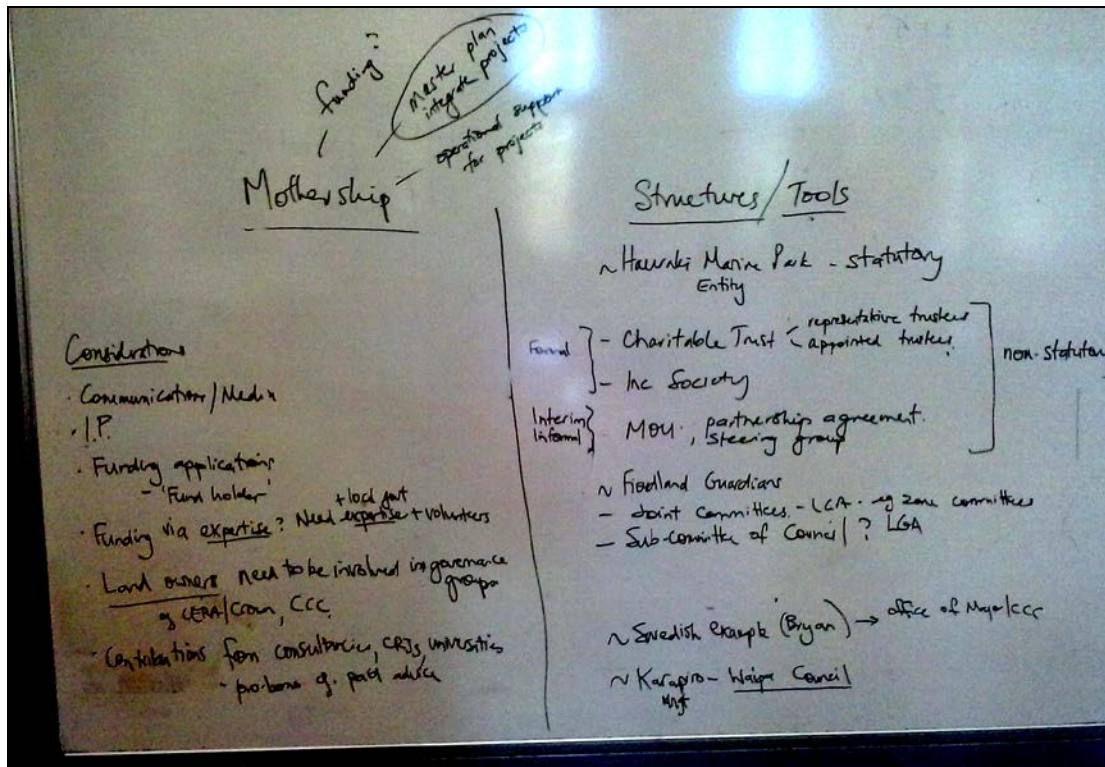
Considerations

- Communications and Media
- Intellectual Property
- Funding Applications – ‘Fund-holder’
- Funding via Expertise? – Need Expertise + Local Govt + Volunteers
- Land Owners need to be involved in Governance Group eg CERA/Crown, CCC
- Contributions from Consultancies, CRIs, Universities – pro bono cf paid advice

Structures / Tools / Models

~ Hauraki Marine Park	- Statutory Entity		
- Formal:	- Charitable Trust	- representative Trustees	
		- appointed Trustees	Non-
	- Incorporated Society		Statutory
- Interim (Informal)	- MoU, Partnership Agreement, Steering Group		

- ~ Fiordland Guardians
 - Joint Committees, LGAs (Eg Zone Committees)
 - Sub Committee of Council / LGA?
- ~ Swedish Example (Bryan) – Office of Mayor/CCC
- ~ Karapiro Management – Waipa Council



Immediate Next Steps

1. Simple interim Memorandum of Understanding / Partnership Agreement for individual multi-agency project teams
2. Discussions within Avon-Ōtākaro Network and Eastern Vision to clarify their roles as they see them
3. Exploration of fund-holding options
4. Exploration of structure and guiding principles of a mothership body including relationship with CERA/Crown, CCC, ECan and TRONT

Acknowledgements

Thank you to:

Te Marino for welcoming us and providing such fine food;
 Chrissie for facilitating
 Te Marino, Mark, Colin, Chrissie, Mike and Dave for presenting
 All participants for attending and contributing.

Appendix

INVITEES (Attendees in yellow highlight)

Interest/ Organisation	Role	Name	Email	Phone
Ngāi Tūāhuriri / Ngāi Tahu	Kaiārahi Whakapapa (Whakapapa Advisor), Te Rūnanga o Ngāi Tahu	Arapata Reuben	Arapata.Reuben@ngaitahu.iwi.nz	03 974 0123
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	Ngāi Tūāhuriri earthquake group, Mata-popore Chair Te Kōhaka o Tūhaitara Trust Aoraki North Canterbury Conservation Board	Joseph Hullen	Joseph.Hullen@ngaitahu.iwi.nz	
Inanga/Whitebait Spawning Habitat Enhancement	School of Biological Sciences, Univ. of Canterbury	Mike Hickford	michael.hickford@canterbury.ac.nz	364 2987 ext 3049
	Aquatic Ecology Limited (AEL)	Mark Taylor	info@ael.org.nz	366 4070 02102262517
Freshwater Ecology	School of Biological Sciences , University of Canterbury	Jon Harding	jon.harding@canterbury.ac.nz	3642987x4988
	Working Waters Trust	Lan Pham	Lan@workingwaters.org	
	EOS Ecology	Shelley McMurtrie	shelley@eosecology.co.nz	
Freshwater Management	University of Canterbury and Lincoln University [Also AvON Strategic Steering Group]	Bryan Jenkins	bryan.jenkins@canterbury.ac.nz	364 2330
	Environmental Science & Planning [Also AvON Strategic Steering Group]	Ann Kennedy	dahen@xtra.co.nz	352 7253
Natural Environment Recovery Plan	Programme Leader, Environment Canterbury [Also Eastern Vision Steering Group]	Chrissie Williams	Chrissie.Williams@ecan.govt.nz	027 702 7457
Christchurch City Council	Mayor [Also Eastern Vision Steering Group]	Lianne Dalziell	Mayorinvite@ccc.govt.nz	
	Senior Surface Water Planner	Graham Harrington	Graham.Harrington@ccc.govt.nz	
	Land Drainage Operations Manager	Mike Gillooly	Mike.Gillooly@ccc.govt.nz	
	Natural Environment Team Leader	Clive Appleton	Clive.Appleton@ccc.govt.nz	
	Transport and Greenspace Unit Manager	John Mackie	John.Mackie@ccc.govt.nz	
	Natural Environment and Heritage Unit Manager	Helen Beaumont	Helen.Beaumont@ccc.govt.nz	
	Parks Operations Manager	Ross Campbell	Ross.campbell@ccc.govt.nz	027 438 4488
	Coastal and Parks Head Ranger	Rodney Chambers	Rodney.chambers@ccc.govt.nz	
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	Director, New Zealand Research Centre for Urban Ecology (NZRCUE) Professor of Urban Ecology, Lincoln University	Glenn Stewart	glenn01@xtra.co.nz	329 5075
President Travis Wetland Nature Heritage Park,	Colin Meurk	MeurkC@landcareresearch.co.nz	321 9740	

	Landcare Research Ecologist [Also Eastern Vision]			
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	Architect, Pivnice	Jason Mill	jason@pivnice.co.nz	
	Innovation, Design and Strategy, Nextant	Grant Wells	grant@nextant.co.nz	
	Landscape Architect	Gayle Souter-Brown	gayle@greenstonedesign.co.nz	
Community: Avon- Ōtākaro Network	Co-Chair	Mark Gibson	nbu.tidemark@extra.co.nz	021 215 5450
	Co-Chair [Also: Programme Manager Eastern Vision]	Evan Smith	evans@qegroup.ac.nz	029 739 9796 or 323 6617
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CERA	CERA	Rakihia Tau	rakihia.tau@cera.govt.nz	
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Anderson Lloyd Lawyers	Chair, Riverside Heritage Garden Park Inc Partner Owner, Anderson Lloyd Lawyers	Mark Christensen	mark.christensen@andersonlloyd.co.nz	
	Partner Owner, Anderson Lloyd Lawyers	Dave Goodman	david.goodman@andersonlloyd.co.nz	
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Recreation	Avon Corridor Users Group, Arawa Canoe Club	Bruce Johnston	bruce.johnston@xtra.co.nz	
	Avon Corridor Users Group, Rowing NZ, Canterbury Rowing	John Wylie	jwylie@xtra.co.nz	
	Avon Corridor Users Group, Whitewater Canoe Club; Also Chch West Melton Zone Committee	Ian Fox	ianmgfox@gmail.com	
	Avon Corridor Users Group, Whitewater Canoe Club	Hugh Canard	hugh.canard@paradise.net.nz	
Eco-Sanctuary	Wildlands Ltd	Des Smith	Des.Smith@wildlands.co.nz	
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