

Public feedback from Community Engagement Meetings to the Ashburton Zone Committee

The attendees were split into groups of between 10-15. A zone committee member explained a priority area to each group and then the participants were asked for their feedback around what is important? What is missing? And are there any other ideas?

Water Quality

Methven – Water Quality notes

What is important?

- Keeping paper work down! – making systems practical to implement
- Audited Self Management:
 - is water user(s) taking responsibility for water management
 - means different things to different people systems
 - needs to include quality monitoring (e.g. volumes /day etc)
- Regulations need to consider different areas (e.g. plains versus hill country farming), needs to be practical.
- Need to prioritise actions for best impact.
- Identify sources of pollution (practical guide).
- ASM – have constructive outcomes.
- Education – what are the issues? Key risks?
- Catchment limits – how do you separate areas?
 - Lower priority until we understand science.
 - Different activities in different areas?
- Embrace new technologies – those that are being applied now including irrigation efficiencies.
- Link economic gain with efficiencies e.g. soil moisture meters/probes.
- Use concrete defined terms not “naturalness”, needs to be tangible.
- Knowledge – need to know how big /bad the problem is and how it is changing, is it getting worse or better.

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What is missing?

- Want a better understanding of what “enforcement” and “non compliance” means and make enforcement count, mean something.
- It is very hard to be proactive when we are not sure where the end game is going to be! But it is not an excuse for not being current.
- Need to know what new water and irrigation is going into and doing to the environment.
- Details around Audited Self Management – got to include catchment limits on nutrients So is that going to be nutrient limits per farm or is it per catchment?
- An education and information campaign on nutrient management.
- Establish nutrient load limits.

Other ideas?

- Identify ‘risky’ farm practices e.g. dairy versus dairy support.
- Need better understanding of groundwater flows, especially with changes in irrigation practice or potential to manipulate this.
- What would be the impact of aquifer recharge on water quality?

Monitor impact of properties/management techniques on water quality. How do you do this for ground water? Build on Lincoln University work.

Hinds – Water Quality notes

What is important?

- Measuring to understand what is happening to make informed decisions:
 - Reasonable benchmarks
 - Need consistent water quality criteria.
- Ashburton River water quality must be good enough for swimming and it's not. Does stormwater affect this?
- Have rivers suitable for swimming but be realistic as get very low flows.
- Keep natural areas around our waterways so nature can filter.
- All water that comes from the ground should be drinkable.
- For irrigation as producing food.
- To avoid the Taupo situation, we are different common sense approach required.
- Don't fix things that aren't broken, prioritise.
- Don't spend lots of money if it is ok just maintain, spend money where needed.
- Setting nutrient load level limits:
 - Where do you set it and this will have huge impact on district.
 - What does the community want for its drinking water?
 - There are systems for nutrient load limits
 - How do you define catchment load limits when long way from river?
- Drinking water supply schemes are good quality and frequently measured.
- Power costs are a critical piece of this issue (aqua flex etc).

What is missing?

- Currently monitoring Ashburton River in 3 places. Need to monitor closely where problems so know cause and effect.
- Is gorse and broom in hill country and riverbeds contributing to N on the lower plains?
- An N hotspot on the edge of Tinwald, is this from the past land use?
- The N level standard for nitrate concentration of 11.3mg/l is from who/World Health Organisation?
- N and irrigation = contamination is overstated as a direct link because N levels increase over winter. By irrigating can manage fertiliser applications as a fertiliser will be used by plant growth compared to dryland farming.
- What contamination gets there by accident, despite best practice?
- Is P an issue with Ashburton and Hinds Rivers?
- Why can't swim in Ashburton River? Is it high E.Coli, why?
- What are current water quality issues with groundwater?
- Are Cadmium levels an issue?
- Is there an interaction between Agchemicals and critters? (insects invertebrates)
- Testing at the top of the system so know where water contamination is increasing.
- E.Coli contamination is critical in terms of human health. If birds are the main contributors to water quality are we then prepared to control them?
- How do inland activities affect us down here at the bottom?
 - Do we carry their impact as well?
 - What is known?
 - How do nutrients get carried?
 - Need to share information, one farmer has good water quality even though there is lots of dairying upstream in groundwater
- There is an inability of people to believe science on collected data rather than 'hearsay' e.g. Main's info on bird source for Ashburton River WQ.
- Need to know state of water quality?

- How bad is it?
- Dispel myths
- Communicate better
- What is optimal water quality?
- Get more access to info
- Share info as new houses require water quality tests, so lots of info around.
- Weather stations need to be more local so irrigate to local conditions for best practice.
- All dealing individually in rural setting to correct drinking water issues, so want to be able to share cost across urban and rural. Want more information.
- Hinds needs its own sewage system.

Other ideas?

- Need to keep in mind diversity of farming so can't have blanket N or P leaching/ha – so no use putting limits on fertiliser application.
- Solutions based on what goes out from the farm. People already doing this now with FAR, Overseer...
- To help minimise contamination by stormwater, swales could be introduced to urban development's to filter stormwater before it enters the river.

Ashburton – Water quality notes

What is important?

- Swim in all rivers
- Be aware of 'police state' if regulating fertiliser quantity being applied to land.
- Drinking water for future generations - need to make sure we protect it.
- Industry maintains potable water in rural areas to meet NZFS Standards (Ecoli.) and turbidity levels.
- Need to know what is happening where – need good data.
- In the Ashburton want to:
 - Swim (long term goals)
 - Drink
 - Catch fish
- Audited Self Management (ASM) is only irrigators, a small sector, so can't solve the whole water quality problem.
- Sector groups already doing ASM.
- Store water to get more flow and this will bring up the aquifers.
- Plenty of rainfall - need to manage and keep it.
- Decreased nitrate levels in drinking water or maintain current level.
- Science based catchment load limits and linked to ASM.
- Store water to get more flow in the river i.e. Big storage e.g. Blowing Point. This will lead to better water quality.
- A comprehensive water quality monitoring programme.
- Streams should be drinkable.
- Swimming in Ashburton, Hinds Boyes and tributaries.
- All rivers need water in them, drains as well. Especially those that used to have water but some go dry naturally.
- Have more flow in waterways like Hinds, drains and Ashburton River by returning stockwater to them.
- Water contact activities without people getting sick.
- Support industry efforts to clean up e.g. effluent and nutrient management plans. Bring other sectors up to scratch.

What is missing?

- Where is the E.Coli contamination coming from? – is it birds? If so do we need to manage them?
- Share information about Hinds historic and current.
- Water pollution survey of what the contaminants are there locations and their impacts:
 - A comprehensive study
 - Across whole river
 - Review and redo report from 2000 by Malcolm Main at ECan
- A balance between stockwater races potential contaminants and stockraces biodiversity values and subsequent planting i.e. keep one side clear for access.
- Seagulls usually eat fish as there is no food in Ashburton should investigate what they now eat which would tell you why they now pollute river.
- Concerned about how close dairying is to the Rangitata River – must have impact on water quality also impact on water of black shag colonies – need more information.
- Need to share data about nutrient levels in the catchment.
- Need to get trend data and know if it is getting worse or better.
- Canada geese population is exploding in the North Branch of Ashburton what effect is this having on water quality?
- Concerned that the diet of birds has changed as a result of farming and this is increasing E.Coli levels.
- Has the bird habitat decreased and led to birds intensifying in their remaining habitat?
- Nitrate leaching is it coming out? I've been putting fertiliser on since the 60s.
- Because of a change in land use there is more Black Back gulls and when roosting in the river at night not eating natural food does this affect the water quality?
- Pumping water everywhere is not beneficial to birds insects etc.
- Need to get information on contamination issues, is publicity /perception a reality. And it has to be at a level that everyone can understand and is accessible.
- Need to fix the gap between urban and rural knowledge and understanding.
- Is there a risk that today's health standards are being too stringent?
- How do natural events affect water quality short term and long term? E.g. flood and rainfall and time lag. And does this override any effects from farming and industry?
- Do we know what our point sources of pollution are? And what is our non-point source pollution e.g. sediment run-off from the high country and is this a problem?
- Fish in the Hinds River.
- Need to know the effects of intensive farming now and the future.

Other ideas?

- Using certified spreaders if using fertiliser.
- Move roosting birds to below Lake Hood intake to improve water quality.
- Maintain drains and water races for flooding overflows, managing water flows from hard surfaces.
- Need holistic approach to sorting water quality – not industry by industry approach, everyone contributes.
- Move away from predictive modelling and closer to monitoring what is happening therefore, more robust science and less politics.
- Could town water have chlorine taken out?

Biodiversity

Methven – Biodiversity notes

What is important?

- Habitat provided within existing working landscapes e.g. removal of shelter.

- Braided River Birds – Ashburton River habitat enhancement.
- Affects to stream flows as irrigation practices change above i.e. groundwater entering streams.
- Protecting drains from effects of intensive land use.
- Hinds – noticeable change in fisheries.
- Recognise that stock water races are used for – bees, fire fighting, stock water and water efficiency:
 - ‘rationalise’ races
 - Is this a priority for biodiversity? Versus water efficiency?
 - Clear management guidelines needed.
- Dryland - not many left! But important.
- Foothills – prioritise areas to protect. Needs:
 - Ongoing management
 - Costs are high, need to maintain existing water quality.

What is missing?

- Foothills Streams –access for stock water supply, needs to be considered.
- Recognise multiple values of lowland ‘streams’.
- What are the contributions to water quality in Ashburton River? E.g. above Mt Somers.

Other ideas?

- Need to ensure biodiversity is integrated with other objectives of the Canterbury Water Strategy – it’s a balancing act.

Hinds Biodiversity notes

What is important?

Hinds River

- Need to find local information on the values of the Hinds (*contacts were taken from attendees who have lived on the Hinds and ZC will speak with them in further detail*).
- River use to go dry every autumn.
- Flows have changes with irrigation.

Spring fed waterways (drains & streams)

- Need to understand the history of the drains & how current & future change may impact on them:
 - Many of the drains/streams in the area were created for land drainage. They need to keep this function.
 - Flows have changed with irrigation changes in catchments above. How will more changes impact on them?
 - Many now are influenced by stockwater races. How will their flows be affected as races are closed?
 - Flows will be impacted by changes in groundwater/irrigation, this needs to be addressed as a priority. No flow = no biodiversity.
- Most of the streams/drains are already fenced.

Dongas

Many are currently gorse dominated.

- Mike Singleton, ADC consultant, worked with landowners on Dongas, perhaps 5 years ago.
- There may be an opportunity to plant dongas (one example north of Longbeach).

Wetlands

- Some wetlands are relying on seepage from RDR main race to keep hydrology. There hydrology is likely to change as race is lined.

Stock water races

- Is too higher value is being placed on biodiversity of water races?
- They have been closing them because of water efficiency issues.

- They are not natural systems.
- Should the properties have to pay to keep a water race they don't want?
- They do provide some habitat for native populations e.g. fresh water mussels. Can we provide other habitats for these & get water efficiency gains too?
- Important for fire fighting & bees.
- Closing races also effects the pond areas which they currently flow into at coast and provide habitat for birds.
- Water quality in them is often poor (and affects any other waterways they flow in to).
- Is it a contradiction to spend money to protect biodiversity, yet remove creeks & streams & replace them with pipes?

What is missing?

- What should we be aiming for?
 - Need to recognise the multiple functions of ecosystems (e.g. drainage, protection of remaining populations of native species) .
 - Need to consider what change we will expect and accept in the future.
- Need to have good water quality to protect remaining biodiversity, and to make restoration possible.
- Farm Dams – provide habitat for birds, can we take advantage of these?

Weeds

- Broom/gorse/lupins/ragwort chocking river channels.
- Wilding pines are a problem in some areas of the zone (Ashburton Lakes, lower Mt Hutt).
- Possums, wild deer & pigs are being librated along rivers. Reducing weeds on river margins may help reduce habitat for these pests (which can also be a tb vector).

Other ideas?

- What is the water quality in the small coastal lagoons? Should this be allowed to discharge into the sea?
- What is the effect on water quality of nitrogen fixing plants (gorse/broom) growing in the river beds?
- Black backed gulls & magpies can be predators in some areas. Is it possible to do targeted control?
- Land eroded & accreted by braided rivers changes the area which is able to be farmed. Is there a way to address this?
- Broom/gorse/weeds along margins of larger rivers provide a habitat for pests which predate on birds
- Make areas with important biodiversity/where biodiversity has been enhanced accessible to public. Get community involved in restoration.
- ECan should telemeter water flow monitoring sites to save time and rates.

Ashburton - Biodiversity notes

What is important?

- Important to work collaboratively with landowners.
- Everything is interlinked.
- Source to sea approach.
- Need to focus on what was in areas in the past (don't try and create something that was never there).
- Need to keep fish (native & sports), freshwater crayfish & mussels that remain.

Ashburton River.

- Need good flows to keep good biodiversity

- Walkways – are these impacting (positively or negatively) on biodiversity?
- Walkways – is this an opportunity to involve the community in enhancing biodiversity along river corridors?
- Need to understand natural changes of flow, e.g. rainfall.
- Supplement flows in Ashburton River from O Tu Wharekai filtering water through Lake Heron & wetlands.
- Can we change the current river plantings to improve biodiversity along both sides of river?

Spring fed waterways (drains & streams)

- Emphasis should be on protecting natural springs not water races
- Interrelation between water use, groundwater, stock water, rainfall & spring flows need to be considered. How will how irrigation changes change spring flows?
- Is pumping groundwater into streams a possibility for keeping stream flows? Rather than bringing in water from other surface water?

Stock water races

- Need to recognise biodiversity in races, but also recognise water efficiency issues – is offsetting for biodiversity values a way to do this?
- They are artificial.
- If races are to be closed (or kept open) for biodiversity reasons then need evidence/science to support it.
- Contrasting demands on races.

Urban waterways

- Urban water needs to be considered.
- Involve community in enhancement of urban waterways (e.g. Mill Creek).

Dryland

- Need to recognise importance of dryland and protect remaining remnants.
- Proactively develop areas of dryland vegetation.

Hinds

- Need to understand the history of the Hinds River (*names where taken and ZC will contact individuals with more information*).
- Consider Hinds hapua as area for protection (fence-off & replant). Could create a public asset.

O Tu Wharekai – Ashburton Lakes

- Wilding pine control – ADC land.

What is missing?

- Mechanisms/incentives to encourage more native plantings.
- Need to have scientific research/evidence to support decisions. This reduces the risks of action.
- Are birds contributing to pollution of water quality? E.g. Canada Geese?
- What does 'protection' mean? Needs to be defined. Should include 'working with landowners'
- Need to realistic about what values remain (e.g. example given where argument for keeping stock water race open was fish living in it, but when actually monitored for fish there were none there).
- Controlling weeds in wetlands & along river banks can be difficult because of rules around use of chemicals adjacent to waterways.

Other ideas?

- Encourage shade/shelter/native plantings on irrigated land under centre pivots.
- There is plenty of water if everyone takes their share but needs to be monitored.
- Storage – is this part of the solution? Need to keep water coming in at the top to keep flows at the bottom.
- Offsetting can be a good tool if the offset is appropriate to values that are being damaged/lost.

But offsetting shouldn't be first tool to be looked at when developing – RMA say avoid, remedy, mitigate.

- More education about existing biodiversity values and why they are valuable.
- Is changing biodiversity bad? Will animals & plants be able to adjust and evolve to changing biodiversity habitat?
- Make educational area of native vegetation near SH1.
- Given so much has been changed is protecting remaining biodiversity enough or do we need to create/enhance other areas?

Ashburton River

Methven – Ashburton River notes

What is important?

- That the natural character of the Ashburton River's tributaries are protected.
- Low flows in winter don't matter because people don't swim or boat then.
- The integration of piped irrigation and stock water.
- The Ashburton River has got to stay wet to keep it flowing, but recognise it does go dry naturally.
- Look at tree species that hold river banks together, that aren't so water hungry? E.g. what about kowhai, flax, alders?
- Allow some of the 6-7cumecs flow to be accounted for by being taken up by the trees that protect the community from a flooding river.
- Water quality has changed, it's got degraded, need to improve this.
- Understanding the relationship between water quality and water quantity as dilution is not the solution to pollution. For example water quality at Mt Somers is poor.
- Efficient stockwater.

What is missing?

- Definition of 'natural' because it could mean an Ashburton River without stop banks or refusing to take and dump RDR water into the river. Therefore, need to define the new natural values.
- Need to define 'normal' as some may think it is a flat line flow, when the river needs a lot of flow variation.
- North Branch goes dry because of stockwater so can we find an alternative source for stock water and one that is more efficient?
- A flow regime for the tributaries as well as the proposed one for state highway bridge of 6-7cumecs.
- There are stockwater races in areas with no irrigation so can't remove them, plus stockwater is important for the bees.
- Need more information about surface water and ground water interrelation at the top section of the Ashburton River in order to get the 6-7cumecs at the SH.
- What would the effects be on the rest of the town and Tinwald if there is 6-7 cumecs flow at the state highway?
- Need an investigation into water quality in Mt Somers because of high EColi. numbers.
- Have the green corridor of the Ashburton River so it brings in wood pigeons (kereru).

Other ideas?

- Get the 6-7cumecs by storage.
- Have storage on the North Branch of the Ashburton River but this depends on the shingle.
- Store water at Blowing point but there are environmental issues.

Hinds– Ashburton River notes

What is important?

- Keep springs constant as they are the sources of the Ashburton River.
- The lower drains and lower plains south of Ashburton, as they receive the tail end of the stock water.
- Impact of stock water races on local drains.
- To have a regular flow in the river need to retain wetlands.
- Important to have green corridor.
- Identify the main contaminants into the River so it can be fixed. E.g.
 - Ashburton dump seagulls and leaching.
- Need stock water to get sediment out of the water.

What is missing?

- An explanation of where the figure 6-7cumecs comes from.
- If took 3cumecs off abstractors would we get 6-7cumecs at the bridge.
- What is natural or normal? How do we understand historic flows? Given:
 - It's a coastal influenced river.
 - There have been irrigation inputs and RDR water went in overnight.
 - Has it ever been 10cumecs? Worried about the size of this amount.
 - Is restore the right word?
 - Is retain the right word e.g. retain to as it is now, the past or some future goal?
- Knowledge of the recharge ability of traditional shallow well irrigation with increased efficiencies e.g. centre pivot.
- More knowledge about the relationship between surface and ground water.
- How much water do willows suck up and how does this affect the flow?
- How do birds affect water quality for swimming?
- Need more data to understand trends, more sites in the future and look at historic data, monitor for a purpose even if it shows something you don't want to see. E.g. water metering.

Other ideas?

- Adding water to the river from storage e.g. Lake Coleridge water swap
- Stored water into river but who pays for it?
- Pipe stock water.

Ashburton– Ashburton River notes

What is important?

- Flood protection – north branch building up - ?need more gravel extraction.
- “Community agreed” nature of river rather than “natural” character.
- Flow sharing regimes (flow variation), no dams on main stem to keep braided river.
- Give water users a different source than the river – substitution or augmentation from storage or RDR or drains -into the south branch. No point putting water into a dry river.
- Experimental year – turn off south and see what happens! North river water goes underground (O'Sheas only one crosses south north).
- Difficult to get National Environmental Standard.
- Storage the only way to keep flows always above min min.
- 3cumecs – from stockwater and augmentation (storage).
- Community needs more water in river.
- Flow linked to water quality.
- Numbers 6-7 cumecs good, but could be less in winter.
- North branch – try to keep the dry period shorter than it is now.
- New water into south not north branch.

- Relationship between flow and water quality.
- Want to be safe to recreate in river.
- Need storage to keep minimums up, including at Blowing Point?
- River has changed over the years, straightened/fewer pools/flood protection with willows. Tradeoffs.
- 1980s river became over allocated/mis-managed then things became more efficient but some flows came from RDR tipping water into the river.
- Avoid yo-yo effect on river with takes. Need enough water in river to be able to swim and recreate in summer – only free water.
- Lots of on-farm storage ready.
- Need leadership that brings communal approach to find the balance.

What is missing?

- Does 'fairway' approach make braided river?
- By Digbys bridge, water from the ?? River disappears underground. Some smaller rivers go underground.
- Linkages of the priorities
- Storage – for all reasons, not just irrigation.
- What are the effects of taking water from one place (at top) to another?
- Stockwater:
 - low efficiency.
 - biodiversity values.
 - value to urban more than rural population?
- If not using as transferring consent, put some water back into river?
- What is 'dry', maybe the water is under the shingle?
- More work needed on north branch.
- River rating managing corridor from hills to the sea.
- Definition of 'natural character'
- Industry extraction – more shingle extraction in the north branch will help flood flow, leave islands for bird colonies.
- How much water added to the river will stay there? Profile the river? Concentrate on the south branch rather than the north branch?
- Address weed problem in and along river (e.g. old mans beard)
- Bird in stream habitat – needs bare river bed.
- Water quality are seagulls a source of pollution?
- Keep existing consents unaffected.
- Find extra cumecs from stockwater – pipe it? only barrier is cost
- If put stockwater into the river will it reach the bridge. Talk to Greenstreet – water into bottom of intake will it get down river?
- 2 cumecs at Morgans Crossing , gone by Digbys bridge.
- Lots of seepage in north branch, where is it coming up – in wells?
- Ground water from south branch near confluence.
- Need cap flushing flows – why need minimum flows for fishing? 7 cumecs not sufficient to keep mouth open.
- Work needed on willows – how much water do they take out. Are the plantings in the north branch drying it out?
- Take shingle out to increase flow.
- 2009 work showed no significant water loss between bridge and river mouth.
- Storage – on farm a good thing or some other form/place.
- Interactions between ground and surface water.
- Is Lake Hood separate from Ashburton River?

Other ideas?

- Allow surface water consents to be converted to groundwater consents.
- Good thinking about river as our future:
- Cycle ways, tourism.
- Storage important for recreation.
- Acknowledgement or incentives from ECan for those putting water back into the river.
- Could Lake Hood be used to keep mouth of the river open during low flows?
- Use RDR to supplement flows with swaps BCI.
- RDR more efficient, now in times of low flow water from RDR be put down Ashburton River to keep mouth open.
- Why do farmers not like storing flood flows (turbid water)
- Water from Lake Coleridge – take pressure off ground and surface water.
- Retire stockwater?
 - dairy farmers don't want them
 - keep drainage system going (Eiffelton way)
- Facility to give up consents on rivers in return for deep ground water (30-50m). Aquifers all connected.
- ?Preclude damming at top of river to protect natural character of river.
- A piggery not allowed to use stockwater races, had to pump from their own well, so suggest perhaps stock races not necessary and perhaps some subsidy to help convert.

Water Security

Methven – Water security notes

What is important?

- If water quality right then the river is protected for a range of issues.
- If the environment right, then it is Ok for other things.
- Reliable and affordable irrigation water.
- Smaller on-farm storage:
 - Less efficient but able to be done now.
 - Part of the solution.
- Restoration of flow to be incremental.
- Fortunate to have two alpine rivers adjacent to zone- rainfall at right times of the year.

What is missing?

- Is it normal to always have water above surface all year round?
- What comes first in deciding target of X ha – is it land use or irrigated area.
- Large storage schemes – increase river flows and irrigation, but not the same benefits from smaller on-farm storage.
- Need to consider the extent / bulk of glaciers and if there is a reducing volume of water coming out from them.
- The effects on the east of SH from the changes in irrigation from border dyke to spray.
- Meet flows if encourage storage in the hills (could be dams) – in and out of the zone cf Ruataniwha in Hawkes Bay.
- Coleridge will provide some reliability- what comes next? Klondyke, gorge, Wainiwaniwa?
- Affordability.
- Needs industry based on affordability.
- Improving irrigation efficiency.
- More science on good water systems.
- Aquifer recharge:

- Effects from stock water races?
- What is it worth to irrigation, the rivers and stock water?

Other ideas?

- Liaise between those with takes from the east and west of SH1; work together on a joint scheme.
- Endorse Lake Coleridge but if its affordable.
- Blowing Point storage, is it dead in the water? If it could take higher flows, could it make the system more reliable?
- Water user groups – to have more flexibility use within resource consents.
- Trading could lead to more efficient use?
- Turbines n races.
- Incentives for town dwellers to use rain water storage.
- Have all the irrigation companies/schemes work together for collective good.

Hinds– Water security notes

What is important?

- Land value reflects infrastructure on farms.
- Good to expand irrigation – but not undermine reliability of existing irrigators.
- Why should individuals up country pay more for drinking water than in the cities? Or is part of country living?
- Stockwater races –:
 - Wasteful
 - Do hold some special things (fresh mussels).
 - Some run dry for 5 months (used to run all year).
 - Part of by-gone area. An inconvenience for many farmers.
 - Useful for drainage e.g. off roads.
 - Pipe it but who pays?
 - Being destroyed by dairy and deer.
 - Drinking water from stock races more common in upland areas.
 - As they are retired, there is a negative effect on flows into drains and the groundwater recharge.
- Biodiversity of stockwater races:
 - doubtful values if maintained as expected by raceman.
 - sediment trap.
 - not valuable for dairying, there are water quality issues, use troughs instead.
- Need district initiative to deliver stockwater, areas where it can be piped. Needs to have clear responsibilities to care for it otherwise danger that such an initiative could become inefficient.
- Irrigation as much as can find water for.
- People lower down the plains happy to use ground water for irrigation and leave water in drains.

What is missing?

- Efficient water storage:
 - Community dams for river/irrigation/security/recreation
 - Cross community funding
- Water security means sufficient water when it matters.
 - It is a nightmare that calculations are based on ‘average’ years, as last water is as important as first.
 - Flood to spray is giving close to 100% reliability.
 - Higher reliability leads to most efficient.

- Ashburton and Hinds most vulnerable to water reliability.
 - Hinds bigger problem when in flood than when dry – regarded as creek more than river.
 - Hinds useless below the bridge for last 10 years because of low flows – irrigation used to be turned off over night and water would go into the river.
 - Irrigation takes reducing flows/affecting aquifers
 - Wetland disappearing:
 - Affects biodiversity.
 - Affected by water quality too (gone from Swamp Rd 60-70yrs).
 - Dairy developments.
 - Info on changes in glaciers and upland areas.
 - Not enough water below SH1 from ground water to meet demand, still need surface water.
 - Irrigation not feeding up groundwater.
 - Increased water holding capacity in the soil as irrigate over time.
 - Damp soil (like in autumn) leads to greater winter recharge of aquifer.
 - Secure property right on water will encourage people to invest in efficient water uses.
- Secure efficient reliable stockwater supply to all farms including in dry periods.

Other ideas?

- Identify more water from the Alpine rivers.

Ashburton– Water security notes

What is important?

- Quality and safe drinking water.
- Being able to swim in the Hinds River.
- Getting people off stockwater for drinking water – therefore piped systems cost/quality.
- Being realistic about flows keeping the river mouth open.
- Minimum flows that reflect background rainfall, do you add in water from other sources to keep minimum flow?
- Having more stockwater in the river for environment and biodiversity.
- The stockwater race is not efficient, benefits for stormwater drainage.
- Balance efficiency drive to reduce stockwater with downstream/end of system uses.
- Reliability of supply, big storage for irrigation so capture flood flows and provide for environment, recreation and minimum flows.
- If you capture flood flows are you not interrupting the life cycle of the river?
- Protecting deep water wells.
- Allow for some development.
- Giving up surface/run of river water takes for groundwater.

What is missing?

- Is it realistic keeping the river mouth open, historic records show it did not always open?
- Complete science information on water resource, groundwater, therefore need info to answer how to protect irrigated well.
- Augmented flows, therefore where does the water come from? Storage? Efficiency?
- Stockwater closes so relocate biodiversity and get new wetlands.
- Big picture for getting out of stockwater system.
- Will piped water lead to more efficiency and or lose recharge?
- How does industry fit to water use? E.g. meat processing.
- 10.4 cumecs is better – land and water forum.
- What is a deep well? Who protects it?
- Storage? – alpine storage multiple use.

- RDR efficiency /storage – better use.
- Balance irrigation with natural system needs.
- Protecting flows in spring fed streams and drains.
- Minimum flows in Ashburton River being increased to 10cumecs, why?
- Restoring flows how is it linked to what goes in at the top.
- Link between wells and rivers? – efficient use of water.
- Augment Ashburton from Lake Heron.
- What is the actual amount taken from stockwater?
- Grey water use/ rainwater – already in town
- Water from Lake Coleridge.
- Storage? The answer.
- Control (farming water use) important unless have storage, right commercial terms to give up control.

Other ideas?

- What savings are there from piping water for stock?
- Filter water for drinking from stockwater.
- Soak hole at end of races?
- Aquifer recharge – store water temporarily in aquifers.

Meeting	Date /Time	Location	# attending	# facilitation groups
Methven	25 July 1-3pm	Heritage Centre - Theatre	22	2
Hinds	27 July 7-9pm	Hinds Community Center	24	3
Ashburton	28 July 7-9pm	Ashburton Events Centre – Bradford Room	60	4