

What was to happen at the workshop on 13 December 2010:

1. The workshop schedule for the day was to focus on:
 - a. the economics of proposed actions
 - b. the time frame of proposed actions
 - c. who funds the actions and equity considerations associated with this
 - d. progress the draft action plan
2. The model was to be used interactively to develop thinking in these key areas and explore ways in which new solutions can be generated that are collectively beneficial .
3. The participants needed to confirm the draft AP was in a format that was suitable for all the groups represented in the workshop to include in their annual/business/organization/agency/iwi plans to ensure implementation and monitoring phases are achievable.

Summary of the workshop discussion

Economics of the River

The workshop objective was to understand and 'value the economy of the river'. This is a wider concept than 'the value of the river to the economy'. The economy of the river involves understanding the contribution made to the market value (for example, for every \$kg of milksolids what proportion can be attributed to the Manawatu River) and the non-market value (the ecosystem services freely provided by the Manawatu River that allow the productive capacity to be maintained and people to thrive).

As there were many different ideas of 'economy' held by participants it was a struggle to bring these together and proceed in a new direction.

To understand the economy of the river there is a need to separate the market and non-market values (direct, indirect, intrinsic). Some activities such as recreation and forestry straddle both direct and indirect values. Horizon's has a report on value of water to the region but not the catchment. The report has limitations as it is based on assumptions, but it may be possible to extract data from that report for the model. This type of understanding pushes beyond using contribution to GDP and employment as a measure of value to including the indirect and intrinsic values associated with the river and the ecosystem services it provides. It requires including non market values which is always difficult.

Exploring economic value introduces conflict such as irrigation versus consumption in urban areas versus ecosystem health and access to recreation. Looking after the river is important for both economic and environmental motives.

This workshop is to decide how we best manage the river at the macro level.

Important Questions

1. What is the economy of the river? (this is a point of reference from which we can measure)
2. What is the likely cost of intervention?

3. What will be the consequential short term and long term economic impact of those actions (including the opportunity cost)?
4. What will be the cost of doing nothing?

Draft Action Plan (AP) and Format

Participants were provided with a draft AP. Feedback on whether the final AP should just be the bare bones or also present a narrative was sought. The general consensus was the final AP should set out simple, readable achievements and objectives. The target for Year 1, 3 and 5 need to be fleshed out. The proposed solutions will likely be multi-faceted. It will be necessary to interlink the solutions and the timeframes so they are not presented linearly. If given the time the models supports required thinking in this space. The AP needs to be in a format that the Leaders Forum can report on achievements. There is a wide public expectation of the AP so it needs to be in a format available/accessible to the public.

Whether or not it was best to leave detail to those implementing the various actions was not resolved. Steps for monitoring results do need to be included. Stakeholders are willing to be involved in this, for example F & B could count bird numbers etc.

There will need to be a communication plan to disseminate the AP to the wider community at the end of the workshops. The AP is what we 'sell' to the community so it needs to be a product the community is happy with. There is also a need for supporters to know what is going on now. Reporting is currently done through newspapers and the website.

The AP needs to be more specific in terms of who takes a leadership role and who the key players are. These are not always the same people/organisations. There was general agreement that the AP in its current format would meet the needs of the various groups the stakeholders represented.

There is national interest in the AP as a template for use elsewhere. It will therefore need to include a definitive sets of costs and actions. Discussion of these is the next step.

Model and its role in the AP process

If stakeholders are interested in actively using the model between workshops the IFS team can provide a Stella licence. The model can be accessed and run using instructions provided on the www.ifs.org.nz website. Questions the model will provide insight on:

1. How can social, economic, cultural and natural science information be meaningfully integrated? **This is a question that is being addressed globally and nationally so it would seem to be the right question to be asking regionally and locally.**
2. How big of an impact can a portfolio of solutions make toward the goals of the Accord and intermediate indicators? **Information is trickling in to get models up and running to help with these decisions.**
3. What are the cost and who will benefit? **These are the issues for today.**

For question 1 there also needs to be consideration for HOW the inspirational goals of social, economic, cultural and natural science are integrated as sometimes goals compete. An

understanding of the ambitions of each and trade-offs is needed before they can be meaningfully integrated.

The model is evolving but it takes time to build together for people to fully understand how it works. How to best do this was discussed. Most participants felt that model building interactively in the workshops was an inefficient use of time. It was better to have the discussion to determine what needed to be included and why and then do the model building off-line. Marjan explained that if changes are not made to reflect the dialogue when it is on-going there is the risk that it becomes too much of a “spaghetti junction” that participants do not understand or have ownership of. The general feeling of the group was that as many concerns were specific to individuals and the groups they represented (eg fishing licences) and it was an inefficient use of collective time to discuss whether or how they should be included.

The workshops are seen as a way to develop a tool-box to deal with long term issues. It is important in the workshop to identify the boxes needed but not try to fill in those boxes. If model building is done outside the workshops participants were keen to know if their concerns were included in the model. It was suggested that items to include should be listed and then ticked off when incorporated.

For the economic section of the model we need to know the cost of alternative actions and where the money is coming from as well as what is being spent at the moment.

How does the model deal with conflict was a question raised but not answered.

Who will pay

Sources of funding for implementing the AP were identified as:

1. District/City Councils (ratepayers)
2. Regional Council (ratepayers)
3. Central Government Agencies i.e. DOC (taxpayers)
4. Industry/Primary Producers (private enterprise)
5. Treaty Alignments (iwi)
6. Recreational Groups (individuals)
7. Interest groups (Fish and Game; Forest and Bird) (individuals)
8. Philanthropic Trusts (individuals)
9. QEII (taxpayers and individuals)
10. Public Private Partnerships (PPP). Waste water may be a recession proof business. Farmers who want to take effluent utilization more seriously may also be interested (private enterprise/ratepayers/taxpayers)

The point was made that workshop stakeholders also represent the network of funders.

Costs and priority of Potential Solutions

For any potential solution how much it costs is important. Before prioritising the group felt more information is needed on costs and alternatives. It is not possible to prioritise without knowing more about potential outcomes from actions and where and when they will take place. It is wasting

time prioritising without knowledge. All options have costs and we need to use science to inform the discussion. However the science is often disputed.

Water metering was one suggested solution to reduce water use and wastewater. Currently 94% of water use in the Horizon's region is metered (69% directly metered and 25% metered by the town supply provider). Storage facilities are being constructed to reduce takes from the river at Dannevirke and Eketahuna. Installing water meters in areas such as the Horowhenua would be a cost that would not make a difference to the river. But others felt that reduced waste and efficiency gains brought about in water consumption would be beneficial all round in the longer-term.

Providing for land based disposal for PNCC waste water has been estimated to cost \$100m. It would cost \$1.4m to run the phosphate removal plant all year instead of just 4 months of low flow. Both these costs could make small contributions to improving river water quality compared to the same or less money spent elsewhere. Alternatives also need to be explored. For example, can you create a market for waste water to reduce the \$100m. Transport and pipelines are the main costs involved. Distribution costs are accepted for phones, power, internet etc so could also be charged for waste water.

Horizons have a draft AP (HAP) with 85 proposed actions which they are willing to bring to the Jan 27 workshop with back of the envelope cost calculations. These are all actions intended as ways to do things better. Improvements have already been made. There have been massive gains from reducing discharges 800 down to 200; a lot of work has been done on reducing and understanding the impacts of discharges; P and N balances for the catchment are underway; research has found N contributes to good water quality at high water levels. Horizons are proud of their science program and know what the main issues are. The problem is how costs are going to be met and how much alternatives cost.

The question that needs to be asked is if we had \$20m how could it best be spent? There is potential for PPPs, waste water to land as a nutrient etc. We can use the model to take a bigger look and help make decisions. The model is intended as a tool to help Horizon's communicate issues and determine how to get the best overall solutions.

Equity Issues

The work programme to improve the Manawatu River is currently underway, for example all Horizon ratepayers contribute to the SLUI project.

It is not intended to improve catchment water quality by forgoing the polluters pay principal. Polluters have a responsibility to get to a certain level but some things can be collectively decided on. There are different levels of responsibility and action. The best solutions will depend on research and science.

Everyone contributes to the issue in some way and we will all benefit from having a cleaner river. How costs should be allocated needs to be decided. An example given was for dairying where if a new farm was being converted to dairying, polluter costs should be budgeted for. If a farmer has been dairying for 50yrs it may be considered unfair to impose new costs.

It is important to take a catchment wide perspective on costs and solutions so funding goes to the actions that can make the biggest difference.

Goals of the workshop

The MM workshops are about finding synergies between initiatives so we can gain from them. We are trying to put a number of different mental maps and budgets together. The different groups at the table all have their own long term plans. We have been informed about the 85 actions in HAP that will be in place next year. Fonterra will also have their own AP that feeds into Business planning going forward. There is also on farm actions getting embedded in what farmers are doing. Fish and Game have their strategic plan. Iwi have their management plans. And so on ... The AP from the IFS workshop wants merge these together to achieve something that is bigger and better than working by ourselves.

We are trying to be courageous and do things differently for the river. We are advancing to think about funding issues, actions and the level of investment needed for the AP. The economic aspects are always difficult and this is added to by having new people at the table.

Short term vs Long term tensions

The timeframe that decisions needed to be made for was a source of tension. Some stakeholders were focused on ways to find improvement for the river here and now whereas others prefer to take a longer term view. Wastewater could be renamed 'asset water' to see how disposal could be an investment for the future. By changing thinking there would be positives for the river. For those looking at the river forever and the availability of water not using water by bringing in composting toilets and reuse of grey water are alternatives. These are big ideas that would require some of the long term research budget to explore.

A tension resulted from those interested in looking at options such as composting toilets (or other ways of reducing water use) and participants seeking more concrete actions. For those seeking concrete decisions for the immediate future such discussions were considered "off track". The pressure for immediate solutions was also felt by participants with senior people above them pushing for solutions.

Horizons Action Plan (HAP)

It was generally felt more knowledge of the potential solutions was needed for participants to make choices and prioritise. It was therefore agreed by the group that Horizon's present their proposed actions and priorities. Agreement reached was on the basis that people were "happy to see the cards but reserve the right to reject".

Horizons also made it clear they were likewise interested in what others propose for solutions. In terms of whether there was sufficient science to make a decision it was accepted that it was always going to be a chicken and egg situation. The HAP stocktake of ideas was based on current scientific knowledge. Current initiatives underway cost around \$4m annually.

Water quality (90% of problem)

Non point sources

- Horizons is mapping 55,000 ha /year and funding 5000 ha of tree planting for erosion control. In the SLUI project 500 farm plans are proposed and 364 have been completed so far. If all 500 plans are implemented this should reduce sediment to the river by 50% over 20 years.
- Sediment is a key issue as impacts on capacity to prevent flooding, turbidity and smothers habitat. Lots of Phosphate (P) comes with sediment. Horizon's consider it is just as important to deal with the P associated with sediment as it is to deal with the P in discharges to the river.
- There are 40,000 ha of land with no woody cover that needs to have it.
- Tararua project – have interest in fencing off 150 km waterways (\$300,000 funding available)
- 10% of Nitrate (N) loss is from leaky effluent ponds. Other N loading from farms = fertiliser N, non-point sources (urine) and direct impact of stock in waterways.
- Wetland and Bush retirement – the overall target is 100 wetlands and 200 bush remnants being fenced off and retired from agricultural use. The annual target for wetlands is 10 per year which is currently being exceeded. The annual target for bush retirement is 20 per year. The current focus is the Tararua area where land owners are receiving subsidies to fence off these areas.

If there was greater funding the priorities would be to: employ more rural advisors, increase effluent discharge to land, check every farm every year for compliance and provide dairy farmers with pond size calculators.

Point sources

- Working with TLAs and industry to resolve consent issues. Currently get sampled up and downstream of discharge 12 x /year and are organizations are visited 3 or 4 x per year. Need to resolve consents that have been on books for > 1 year. Always looking at ways to improve resource consent conditions.

Water allocation (quantity 10% of problem)

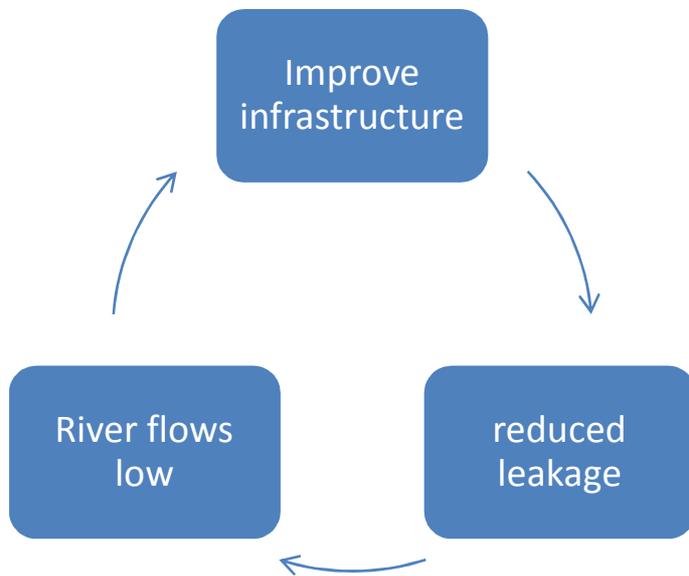
- Only 2 areas in the Manawatu catchment are currently over-allocated. Currently monitor 69% of water takes by meter.
- Fish stream requirements on all takes.
- The quantity of groundwater in the region is good this year.
- Irrigation is monitored. Water use efficiency tests are done for irrigators. Some irrigators have already been switched off this summer due to low river flows.
- Woodville and Dannevirke have built storage dams so they can reduce takes in low flow situations.
- The economics of storage are difficult as water storage is not needed every year. Investment costs are therefore spread over a long time period.
- Reality of resource consent is they are about allocating a scarce resource. Stock and people get first take. The allocation for some towns has been reduced. Allocation processes are improving. More work is needed on groundwater allocation issues. Infrastructure in some

places eg small towns is leaking which district councils need to address to free up water for other more economic uses.

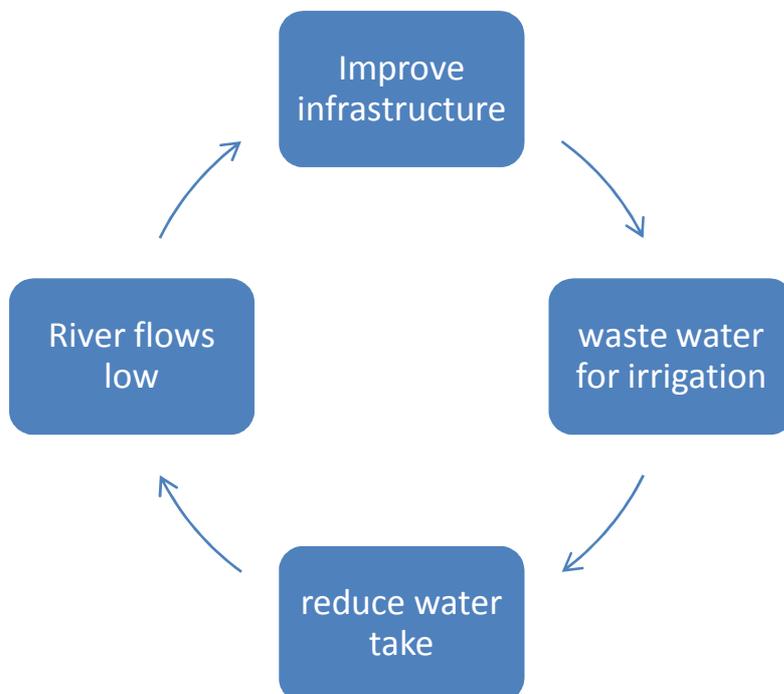
Discussion on HAP

- Is there opportunity for the Accord group to have a role around water allocation and better use of waste water? Opportunity exists for input but Horizons has the legal mandate to manage the process.
- Do Horizon's charge for water? Only a monitoring charge as water is for collective use. Does charging require some regulatory change? High level input into regulatory process
- If it is in the best interest of the Manawatu River to investing in Dannevirke water infrastructure why don't we all pay for it? We can use collective buying power to get the best outcome and benefit downstream. Proposed actions will go into the draft AP and this is where we draw the line in terms of acceptability.
- Different ways of prioritising - lots of resources into big issues or resources into many small issues
- 50 sites of significance for fish monitoring. Removal of fish barriers which may have a small cost (say \$20,000) may have a big impact on fish numbers. 91 fish barriers and removal is a high priority. Horizon's is reviewing the fish monitoring processes and working with DOC and others to improve fish breeding habitat. Need to do a lot of learning. Iwi are keen to be involved. Disappointed about not knowing about research on the river recently in paper. It was explained the project had been underway for some time and the newspaper article was a way to share information about it.
- Horizons is releasing regular media information to inform people about the river conditions. Communication is via the media. After heavy rain ecoli concentration are very high. There is currently no warning system for whitebaiters. This needs to be looked at.
- Is there a feel for how usable the river is? A clean and clear river is safe in most places. If it has not rained for a couple of days it is ok to swim in. For swimming and recreation there is a need to learn more about cyanobacteria management.
- A big investment has been made by Horizon's in monitoring. This is where the science comes in but there is a cost. In 2010 water quality monitoring in the Manawatu estuary started. The first report will be available late Feb. The scientists also hope to get funding for habitat improvement.
- There are annual vs seasonal problems associated with water quality and quantity.
- Foxton has already had trouble this year with farmers taking water from aquifers and drying up neighbouring bores.

Feedback loops in discussion:



Another option would be to fix up town water supply and use waste water for irrigation



Action Points from discussion:

1. Other stakeholder groups represented (other than main dischargers who have already been approached) to provide a summary of what they are currently (2010) doing to maintain water quality and quantity.
2. Any actions currently underway to improve river to be provided to the IFS team by the 14 January so they can be incorporated into the model.