

3 Landcare in Action.

Many farmers and landowners are already taking a landcare approach.

This chapter contains examples from a range of farmers and landowners who have taken the plunge and invested in a more sustainable approach. These are practical, economically viable land management solutions that provide long term benefits to the farmer, landowner and the wider community.





Turning to totara.

Northland farmers are working with scientists and the NZ Landcare Trust to explore a sustainable industry based on farm grown totara trees.

PROJECT PROFILE:

Name:

Northland Totara Working Group

Location:

Rural Northland

Main objectives/issues:

Sustainable management options for sustainable wood production from regenerating totara on farm.

Investment:

Sustainable Farming Fund grant, Northland Regional Council, ASB Community Trust, Future Forest Research funding

NZLT role/involvement:

Project coordination, facilitation, translating science into practical sustainable land use options

NZLT Regional Coordinator:

Helen Moodie, helen.moodie@landcare.org.nz

PROJECT BENEFITS:

Farm benefits:

- ✓ Diversified income stream
- ✓ Slope stability
- ✓ Stock shelter
- ✓ More attractive farms
- ✓ Improved water quality

Environmental benefits:

- ✓ Stream shade
- ✓ Reduced soil erosion and stream siltation
- ✓ Food/nest sites for birds
- ✓ Wildlife corridors
- ✓ Carbon uptake

Social benefits:

- ✓ Local industry/employment opportunities
- ✓ Farm profitability
- ✓ More attractive rural landscape

Weaving a rich tapestry.

Kaeo landowner and landscape architect, Paul Quinlan, has an eye for the big picture when it comes to sustaining both our rural vistas and the farming industry.

In the winterless north where he lives, regenerating totara is part of today's rural landscape. Up there totara regenerates so freely in pasture that it's almost considered a weed by farmers.

Totara is a native tree, but these stands and treelands aren't typical of the original forest that would have clad the Northland hills. According to Paul:

"The changes we have made to the land, past clearance, and introduction of stock, has changed the nature of regeneration, favouring totara over other native species and creating a 'novel' forest type."

Paul sees in this highly modified landscape an opportunity for sustainable land management, particularly on Northland's poorer soils and aspects.

He reckons that instead of constantly fighting nature – controlling totara regeneration to keep paddocks clear for stock – we should work with nature. If farmers were sure they could harvest trees in the future, Paul says they would value and nurture the totara that pops up on their land.

Regrowth totara could be combined with livestock farming in an agri-forestry regime – it would be a practical way to weave native trees and biodiversity back into our farming landscape.

Regrowth totara could be combined with livestock farming in an agri-forestry regime...

Seeing the wood in the trees.

Totara has long been valued for its timber. Maori used the light but durable wood for canoes, whare posts, and carving. Europeans also valued its durability, ideal for railway sleepers, wharf and house piles, telegraph poles and fence posts. Today, some of those old fence posts have found a new lease of life in rustic furniture and ornaments.

As a modern day timber resource though, its popularity has waned.

- Environmental concerns have fuelled a preference for plantation or recycled timber
- Council rules control native vegetation clearance
- The Forest Amendment Act of 1993 limits milling of native species to timber from sustainably managed indigenous forests

For landowners like Paul, finding a market for totara and legally harvesting it will require culture shifts and law changes – perhaps an acceptance that harvesting totara for timber will at least mean the trees are in the landscape for decades, rather than whipped out of the ground as seedlings before they become a liability.

Pulling the threads together.

Paul wasn't the only one who saw the potential. A field day at his place in 2005 to discuss the issue was packed with farmers and scientists.

Helen Moodie of NZ Landcare Trust also attended. Being a natural 'match-maker', she immediately started weaving the threads. She contacted the right organisations, sourced funding, and brought together landowners, researchers, law makers and local authorities.

In 2006, the Northland Totara Working Group (NTWG) was formed. Coordinated by NZ Landcare Trust, the Group includes; landowners, Farm Forestry Association, Far North District Council, Northland Regional Council, MAF, wood millers and processors, Tane's Tree Trust, NZ Forest Owners Association and research institute Scion.

The good weed.

The NTWG aims to encourage productive use of farm grown and planted totara – turning a perceived weed into an asset.

They already knew that totara would be an ideal species for farm forestry, given its strengths:

- A pioneer tree species – ecologically suited to grow in open land
- Stock-resistant – survives in grazed pasture
- Abundant natural regeneration – no planting needed
- Responds well to silviculture – pruning and thinning
- Significant regional resource – enough to be commercially viable
- Potential for sustainable management

However, not enough was known about selection, management and sustainable logging and there was no organised market for the timber. That is where the Northland Totara Working Group is concentrating its efforts.



Top tip.

Take advantage of nature's free supply of totara. Combine with livestock farming for a practical way to weave native trees and biodiversity back into our farming landscape.

Paul Quinlan,
Kaeo landowner

Paul sees in Northland's highly modified landscape an opportunity for sustainable management.



Trees with a silver lining.

When farmers and scientists combine forces you can bet there will be a good outcome – a marriage of practicality and ‘can-do’ attitude, teamed with solid data.

The working group have begun to:

- Evaluate wood quality, both in the lab and with the millers and woodworkers
- Measure the volume of timber on regenerating land using aerial photography and GIS technology
- Establish silviculture plots (growth measurements, pruning and thinning trials) in planted and natural stands
- Compare growth rates and wood quality from naturally regenerating totara with plantation totara

The silviculture trials are showing promising results and dispelling the notion that natives are slow-growers, with trees in pruned and thinned stands putting on 3 times more growth than in untreated stands.

In Northland young totara can ‘grow like the clappers’ and develop straight trunks of several metres in a decade if they are encouraged to reach for the light. Paul believes with the right management we can get millable trees with six metre butts in decades, not centuries.

Culture of change.

Perhaps the greatest barrier to creating a totara timber industry in New Zealand is our recent culture of completely separating production and conservation – viewing stands of native bush as good only for ‘locking up’.

Paul however, sees a potential to integrate native trees into the pastoral environment, to weave the natives back into our highly modified production land.

“In this country we have a tradition of spatially separating conservation and production. There are still a lot of negative associations around cutting down any native trees. But perhaps this a limiting paradigm as we look to improving environmental performance and getting more native trees onto the farm?”

Large tracts of Northland were originally developed into pasture by clearing bush, and where stock pressure has eased because of low returns and lack of fertiliser, totara has come back. However, the rules that aim to protect existing stands may be deterring landowners from letting new seedlings take hold.

Allowing sustainable harvest of recently established trees could be a better way forward.

Perhaps the greatest barrier to creating a totara timber industry in New Zealand is our recent culture of completely separating production and conservation...

Helen Moodie,
NZLT Project Coordinator



Super tree.

Totara is more than just a timber tree, it’s something of a super-hero. Growing well on river levees and steep slopes, and fairly tolerant of stock, this tree is a true multi-tasker, performing many functions:

- Stock shelter
- Slope stabilisation
- Stream shade
- Sequestering carbon
- Silviculture

Add to that, it’s a fantastic food larder for native kukupa and tui.

Perhaps we should let the totara trees grow. Let the birds feast on them, let the stock rest beneath them, let the soils stay on the land, let the rivers run clear. Then, sustainably harvest them and let their legacy live on as beautiful furniture.

Paul, meanwhile, has obtained a 50 year term sustainable forest management plan under the Forests Act to manage and harvest small stands of regenerated totara on his Kaeo farm. The next half century will likely see him busy tending his crop, thinning and releasing them from the competing species, and selecting the trees with the best form and growth rates for pruning. With the help of NZ Landcare Trust, a generation can enjoy the idyllic vista.

For more information about this Project see:

www.landcare.org.nz/regional-focus/upper-north-island/northland-totara/



Heart of the Matter.

Ruia taitea, ruia taitea, kia tu ko taikaha –
‘Cast away the sap but let the heart remain.’

Our lofty totara was the ideal tree to describe the solid standing and enduring power of chiefs (likened to the robust heartwood of the totara), compared to the fleeting existence of the common solider, like the soft outer sapwood that easily decays.

One of our native conifers, lowland totara (*Podocarpus totara*) can grow an impressive 40m tall, with a girth of 6m. The great ‘grand daddy’, Pouakani, near Pureora Forest, is an awesome 1800 years old.

Podocarp literally means ‘foot fruit’ referring to the fruit-like base that holds the seed. This is eaten by birds which then distribute the seed.

Of dairy cows and mussel shells.

Dairy farmers in the Aorere Catchment are taking ownership of their environmental performance, to protect local waterways, the future of their own farms and the Golden Bay aquaculture industry.



PROJECT PROFILE:

Name:

Aorere Catchment Group

Location:

Golden Bay, Tasman District

Property Size:

33 dairy farms in the catchment

Main objectives/issues:

Employing a 'farmers as leaders' approach to environmental stewardship in reducing faecal runoff issues, thus future-proofing both local dairy operations and marine farms. Also to share the philosophy widely within rural communities and beyond.

Investment:

The project is supported through the Sustainable Farming Fund and stakeholder investment. The 19 properties participating in detailed environmental plans so far have committed over \$2M to on-farm environmental best management practice improvements.

NZLT role/involvement:

Project coordination, facilitation, financial management, publicity.

NZLT Project Coordinator:

Gretchen Robertson
gretchen.robertson@landcare.org.nz

PROJECT BENEFITS:

Farm benefits:

- ✓ Understand Best Practice for local conditions
- ✓ Moved from compliant farming to Best Practice
- ✓ Riparian fencing provides greater stock safety
- ✓ More attractive farms
- ✓ Dairy industry co-exist with shellfish sector

Environmental benefits:

- ✓ Cleaner rivers
- ✓ Cleaner marine environment
- ✓ Increased biodiversity in riparian zones

Social benefits:

- ✓ Closer communities
- ✓ Secure jobs in aquaculture
- ✓ Better environment to live and work in

From relaxed river to raging torrent.

Living in the Aorere Valley means living with water. In a torrential downpour, the unpredictable Aorere quickly becomes a torrent. With a 4 metre annual rainfall, flooding is a reality the long-established dairy farmers in the catchment are well accustomed to.

Flowing from Kahurangi National Park, the river empties into the nationally significant Ruataniwha Estuary near Collingwood, in the sweeping arch of Golden Bay – home to a shellfish industry turning over up to \$15M per year. With each big downpour, the shellfish were at risk of contamination from bacteria washed off the land.

The dairy farmers recognised that the shellfish operators were farmers too...

Something in the water.

In early 2005, a meeting was held to discuss the levels of *E. coli* entering Golden Bay. Local marine farmers were facing closure due to deteriorating water quality – opportunities to harvest were as low as 28%. The marine farmers had always stopped harvesting after heavy rain to avoid potential shellfish contamination. Unfortunately high *E. coli* levels were proving impossible to predict – occurring even in periods of low rainfall.

Being filter feeders, shellfish concentrate whatever is in the water, including bacteria and it can take days for the bugs to flush out – days on which harvesting is banned. If harvest is delayed, the shellfish may be past their best when finally hauled in.

With harvesters unable to work and factories not guaranteed a constant supply of product, the viability of the aquaculture industry and many local jobs was at risk. The marine farmers had no choice but to raise their issues publicly.

Centre stage.

When the community started searching for answers about the source of the contamination, the Aorere dairy farmers became the centre of attention. With long family connections to the area and having always been proud of their farms, they were initially shocked at the suggestion that they might be the source. However, they also recognised that the shellfish operators were farmers too, so rather than go on the defensive, all of the 33 dairy farms elected to take positive action to pinpoint the cause and find solutions for the sake of the whole community.

The NZ Landcare Trust offered to assist by applying for Sustainable Farming Fund support - something the landowners saw as an opportunity to improve their industry and their community's future. The Aorere Catchment Project was born.

Source of the problem.

Unsure exactly what was causing the water quality issues in the Bay, the farmer-led Catchment Project commissioned a scientific investigation.

The Aorere River turned out to be relatively healthy, with no evidence of nutrient enrichment, yet bacteria was getting into the waterways – computer modelling showed that the source was most likely runoff from paddocks. Given the sensitivity of marine farms to contamination, the dairy farmers recognised the need to reduce the levels of bacteria reaching waterways.

The Project members openly shared the results with the local council and marine farmers, and held a problem solving field day – farmer-led discussions with support from leading technical experts to agree on best management practices for the catchment.

Dairy farmers elected to take positive action to pinpoint the cause.

Gretchen Robertson,
NZLT Project Coordinator



Codes of practice.

The marine farmers realised it's impossible to completely eliminate bacterial runoff from farmed catchments; they just wanted to be able to consistently harvest during fine periods.

So the dairy farmers developed a set of best management codes:

1. Keep stock out of waterways – fences, bridges and culverts
2. Don't irrigate effluent on saturated soils – have the ability to store effluent for about 3 months
3. Reduce effluent application rates – use low-rate application to land effluent irrigation systems to reduce bacterial runoff
4. Find runoff 'hotspots' – avoid direct runoff to drains/waterways (e.g. via clever laneway drainage and capturing standoff area effluent)

With assistance from an independent advisor, many of the farmers have now prepared individual farm plans to minimise bacterial runoff. Happily, they found that what's best for water quality is often also best for the farm. Having more storage for effluent, for example, allows the farmers to apply it at a lower rate during dry periods in the growing season – when the soils and pasture need it most. This approach also maximises fertiliser benefits by keeping nutrients in the root zone.

Celebrating with cream and chowder.

The shellfish industry is also celebrating – their harvest has jumped from 28% in 2002 to around 79% today!

The marine farmers have congratulated the dairy community for confronting the issue and showing a high degree of leadership through its catchment-wide approach. As marine farming spokesperson, Bill Wallace said: *"The Aorere dairy community have certainly earned our respect"*. In 2008, the catchment group members shared a lunch of shellfish chowder and fine cheese – a perfect marriage of dairy cows and cockle shells!

The rest of the community has jumped aboard, with Golden Bay Streamcare Group, comprising Collingwood School, Forest & Bird members, fishing enthusiasts and local businesses raising native seedlings and undertaking riparian planting and maintenance.



Top tip.

Take time to explore ideas and technologies for a lasting result rather than a quick fix



Barbara Stuart,
NZLT Regional Coordinator

Catchment groups – working together from top to bottom.

During the Project the group learnt a lot, not only about cows and creeks, but about how ordinary kiwis can make a difference. One of the project members, Michelle Riley, has reflected on some of the key project lessons:

- A catchment community approach shares the load
- Move past emotion, engage in high quality discussion
- Earn back lost respect
- Take time to explore ideas and technologies for a lasting result rather than a quick fix
- Invite others to interact with your group for two-way learning
- Farmers need to be supported with science ('experts on tap not on top')
- Keep the process open – it is never too late to come on board
- Communicate well with your members – ask what they need and how they want to receive it
- Acknowledge the problem/s and consider how other businesses are affected
- Build collaborative networks with outside agencies – accept their support
- Promote emergent leadership – include your younger members
- Tell your story in a positive way – substantiate your claims through action and results
- Celebrate success! Make it social and fun
- Evaluate outcomes and plan the group's future
- Start where you are, do what you can, use the gifts you have



Sue Brown

A glittering future for Golden Bay.

The Aorere Catchment Project has demonstrated the success that can come from a community-owned approach – without heavy handed tactics, finger-pointing, or destructive arguments between friends and neighbours. The whole community has pitched in, and the whole community is the winner from the best management actions already taken.

In 2009, local MP and Environment Minister, Nick Smith and 70 guests from the local community, Fonterra, DairyNZ, Fish & Game, Tasman District Council, Forest and Bird, and the Ministry of Agriculture and Forestry, attended another celebration of the great work undertaken by the community, and the launched the booklet: 'Aorere Our River Our Future'.

While the farmers are thrilled at the great result, they know it is not the end. They hoped to extend their project well beyond its initial 3 year tenure – and to their great delight, at the booklet launch the Ministry of Agriculture and Forestry announced a further \$259,000 grant over 3 years! The money will be spent continuing the good work in the Aorere Catchment and widening the 'farmers as leaders approach' within the Rai catchment (Marlborough) and wider Upper South Island.

For more information on this Project see:

www.landcare.org.nz/regional-focus/upper-south-island/aorere-catchment/



Farming to the lake.

The Hayes family put their heart, rather than their runoff, into the lakes bordering their Waikato dairy farm.

PROJECT PROFILE:

Name:

Lake Kaituna and Lake Komakorau Care Group

Location:

Waikato

Property Size:

88 ha dairy farm bordering Lake Kaituna (15ha) and Lake Komakorau (2.6ha). 48 acre runoff outside the catchment

Main objectives/issues:

Minimising nutrient runoff into rare peat lakes, restoring lake margins and wildlife habitat

Investment:

Lake Kaituna and Lake Komakorau Care group, DOC and Environment Waikato, Sustainable Management Fund

NZLT role/involvement:

Lake Kaituna and Komakorau Care Group committee member and technical advisor, Coordinator for rare wetland plant re-establishment trial and sustainable land management in shallow lakes catchments projects

NZLT Regional Coordinator:

Monica Peters, monica.peters@landcare.org.nz

PROJECT BENEFITS:

Farm benefits:

- ✓ Improved productivity on less land
- ✓ Reduced fertiliser costs
- ✓ No more stock lost in boggy margins
- ✓ Greater water retention in low paddocks during dry periods

Environmental benefits:

- ✓ Better lake water quality
- ✓ More native plants and animals
- ✓ Rare wetland ecosystem restored

Social benefits:

- ✓ Farmers and agencies working together to improve the environment
- ✓ More attractive environment to work and live in
- ✓ Valuable educational facility for other farmers, schools, tertiary institutes local and overseas visitors
- ✓ Research site for universities

Winning ways on the farm.

Retiring 10% of your dairy farm for wetland conservation while keeping your stocking rate the same is a pretty impressive piece of farming.

Little wonder then, that Andrew and Jenny Hayes and their four sons have received a national Green Ribbon Award, on top of a regional Ballance Farm Environment Award for their sustainable farm management practices.

Sitting on peat.

The Hayes' dairy farm lies amid a string of rare peat lakes, tucked behind a broad bend of the Waikato River north of Hamilton.

Over the last 20,000 years these lakes, once nestled in extensive raised peat bogs, provided habitat for plants, animals and insects adapted to very low nutrient and acidic conditions.

Today, most of the 33 remaining peat lakes are severely degraded – including the two bordering the Hayes' Horsham Downs farm – Lakes Kaituna and Komakorau. When the family realised their farming practices were harming water quality in the lakes, they decided to change how things were done.

As Andrew says, *"if you're aware, you care"*. He likens their new management practices as *"farming to the lake"*, not literally of course, but taking a landscape approach to ensure their farm works around the lakes' needs, without losing productivity.

A farm that does no harm.

Seeking to first minimise their impact on the lakes, the Hayes fenced out the stock and retired the land around the lakes, creating a wide buffer of wetland vegetation to trap silt and nutrients.

Andrew didn't want the boggy areas for summer grazing, as they only ever produced low quality and weedy feed. Fencing off those wet areas means no more bogged down stock and no nutrients wasted on feeding nothing but willows!

All drains were also fenced and managed to protect the valuable peat soils. Modifications include:

- Keeping drains shallow and wide to reduce rates of peat shrinkage
- A grass sward on either side to trap nutrients and sediments
- Drain-side planting to shade the water and prevent nuisance aquatic weed growth
- Minimal drain clearing - mostly with herbicide rather than diggers
- Sediment traps and vegetation filters like raupo and sedge beds on all drains entering the lakes, keeping stocking rates moderate to avoid compaction and pugging

The Hayes family is now a role model for other farmers in peat lake catchments.



Mind your P's and N's.

The Hayes then started working on reducing their fertiliser rates.

Annual nutrient budgets help them balance the inputs and outputs, and soil testing is carried out annually to maintain optimum nutrient levels.

With areas of low productivity retired, nutrients are targeted on higher productivity areas and the savings have been huge.

- Annual nitrogen application has dropped by a staggering 80%, from around 150 tonnes per hectare, to less than 30
- Super phosphate use has gone from 900 kg/ha to 650 kg/ha, and now applied in December for better uptake of nutrients and less runoff
- Nitrogen leaching is minimised through irrigating effluent over the whole farm and retaining wide margins on drains and the lake
- Effluent application depth is also monitored

These and other practical on-farm changes save the Hayes time and money – resources they now spend on restoring the lakes.

...fenced out the stock and retired the land around the lakes, creating a wide buffer of wetland vegetation to trap silt and nutrients.

Tortured by willow.

In 1999 both lakes were hidden by a thicket of invasive grey and crack willows. The dense summer canopy shaded out any undergrowth, so no runoff was trapped – but plenty of stock were, often needing a 'block and tackle' to haul them out.

The lack of food pushed ducks out onto the paddock, competing with stock. A thousand or so chainsaw hours later, the Hayes, and the Lake Kaituna and Lake Komakorau Care Group they formed to help restore the lake, have finally cleared more than 16 hectares of willow jungle, and reinstated native plants around the margins of both lakes.

Native sedges, rushes and shrubs flourished once free of the willow stranglehold. They help the wetland work like a sponge – keeping adjacent paddocks drier in the winter as the soil and plants soak up floodwaters, and moister in the summer as the stored ground water is slowly released. All up this means greater productivity in adjacent paddocks.

With funding from Environment Waikato, the Department of Conservation and a lot of volunteer work, the Care Group has also:

- Installed sediment traps on all inlet drains to both lakes
- Cleared away 30 truckloads of household rubbish from the lake edge
- Dealt to privet, blackberry and other weeds
- Controlled animal pests including possums and feral cats
- Re-planted native species
- Developed areas for wading birds
- Installed teal nesting boxes
- Created a walkway around both lakes

Birdlife bounces back.

One pleasure of restoring the lake is seeing the native wildlife come back now that food and shelter has improved.

- Grey teal use the nesting boxes
- Several Australasian bittern are regular visitors
- New Zealand dabchick have been seen on the lake
- Rare native black mudfish have been released into the wetland
- DOC is considering the lake as a site for brown teal release
- The lake is also a habitat for eels and common bullies

Leading by example.

The Hayes family is now a role model for other farmers in peat lake catchments. Their property is often used as a demonstration and inspiration site for field days run by NZ Landcare Trust, Federated Farmers and other agencies like Environment Waikato. Schools, farmers, community groups, government ministers, TV crews and even David Bellamy have visited the lakes, which are also featured on the National Wetland Trust's web-based directory of wetlands to visit.

A walk around Lakes Kaituna and Komakorau off Bankier Road, 20 kms north-east of Hamilton, provides a great opportunity to see landowner driven sustainable land management in action.



Top tip.

Retire boggy lake margins and you won't waste expensive urea feeding unproductive land.

For more information on this Project see:

www.landcare.org.nz/regional-focus/central-north-island/waikato-lakes-catchments/



Andrew Hayes,
landowner

Monica Peters,
NZLT Regional Coordinator

The Hayes family
Photo: Waikato Times



Upper Taieri Water Resource Management Group.

Taking the lead in community-based water management.

PROJECT PROFILE:

Name:
Upper Taieri Water Resource Management Group

Location:
Upper Taieri Catchment, Otago

Property Numbers and Size:
150 partially irrigated, generally large stations

Main objectives/issues:
Developing an equitable and enduring water management solution for whole of community good

Investment:
The project is supported through the Sustainable Farming Fund and local stakeholder groups

NZLT role/involvement:
Project coordination, facilitation, securing funding, financial management

NZLT Project Coordinator:
Gretchen Robertson
gretchen.robertson@landcare.org.nz

PROJECT BENEFITS:

Farm benefits:

- ✓ Security of water supply
- ✓ Better farm planning
- ✓ Greater flexibility in accessing water

Environmental benefits:

- ✓ Open process for setting environmental flow levels thus wide buy-in
- ✓ Open discussion and buy-in for the protection of water quality

Social benefits:

- ✓ More united irrigation community
- ✓ Shared vision established for stakeholder groups
- ✓ Community-derived allocation and management regimes to promote sustainable communities long term



Water, water..

We drink it, wash in it, cook with it and swim in it. Yet of the 1,360,000,000 km³ of water there is on Earth, less than half a percent is available in our rivers, lakes, and ponds!

World-wide, agriculture is the biggest user of freshwater, and here in New Zealand irrigation now uses almost 80 per cent of the water allocated for human use.

The low volume Taieri waterways have never been an insurance against drought for sheep and beef farmers in the Upper Taieri, but irrigation is crucial to the sustainability of Upper Taieri farms. Like other water-short catchments nationwide, the pressure on water resources and the degree of public scrutiny of water management is increasing. Wide community involvement and open discussion is crucial to reaching consensus on how best to manage water for the whole of community good long term.

Pressure on water use is continuing...

“it is far better to openly and honestly discuss issues and ideas from day one, rather than battle through environment court”

1963 Contour Irrigation Kyeburn Subcatchment



Valuable as gold.

The amount of rain water that falls in the Upper Taieri each year wouldn't even come up to your knee.

In this dry region, river water is crucial for irrigation, but the sheep and beef farmers aren't the only ones who value it. The Taieri waterways also support an important sports fishery and significant natural ecosystems. Competing interests for water have led to protracted battles in the environment court and increasingly voiced public concerns over river health.

The regional council allocates water takes, balancing the needs of the environment, farmers and other users. The Taieri River is currently 'over-allocated' - there is no spare water for any new applications. What is available gets shared out among 150 or so users, who either hold a permit from the council or an old mining right dating back to the 1860's gold-rush days.

Mining rights gave holders a 'first-come first-served' right to water. They are chattels attached to a person rather than associated with a farm, although they have often been handed down through the generations. They have become almost as valuable as the land itself and although issued in perpetuity, were deemed at the advent of the RMA to expire in 2021, causing concern among the holders about their future access to irrigation water.

Yet the deadline has also presented a golden opportunity to develop a whole new, community-based water allocation model – one that is coordinated and collaborative, rather than ad hoc and divisive.

Working together for good.

Motivated by the 2021 deadline, the irrigators joined forces in 2007 and formed a project to re-design water allocation in the Upper Taieri. While other collective allocation models exist, the point of difference with this group is they brought aboard everyone with an interest, to create an enduring water management and allocation system managed by, and for the good of, the whole community.

Coordinated by NZ Landcare Trust, the Upper Taieri Water Resource Management Group includes farmers, the Department of Conservation, Fish & Game New Zealand, iwi, local government and researchers.

A key concept is to roll all of the individual consents into a single collective one, with a fair and transferable allocation arranged by the group, rather than by the council.

Under this model:

- The community decides what is fair
- Individual water rights are given up for a group consent
- Sub-catchments draw up supply agreements among users
- A 'whole of community' group ensures cohesion and the protection of healthy waterways and a thriving community

Specifically, the group hoped to:

- Avoid a 2021 bottleneck and provide security for permit holders
- Form a stronger united voice – to determine how water is best managed to meet local values
- Determine their own destiny – present an agreed allocation regime to the council for approval, rather than have one imposed on them
- Establish 'supply agreements' – to maintain the priorities established through mining rights, and formalise 'gentlemen's agreements' (like stock drinking water access)
- Reduce consent fees – by applying for a single collective consent application instead of individual applications
- Allow for water transfers under the collective consent – managed by agreed rules to ensure equitable use, and to meet environmental requirements
- Benefit from economies of scale – e.g. share the cost of buying and servicing water meters, or jointly funding bulk water storage and infrastructure
- Obtain a long-term consent (e.g. 35 years) – by presenting a strong case to the regional council based on evidence of clear community agreement

Geoff Crutchley,
Project Chairperson



Runs on the board.

Money secured from the Sustainable Farming Fund (SFF) enabled the group to contract experts to project manage and offer technical assistance.

A series of meetings and public field days allowed all of the parties to clarify their interests and needs for the Taieri water, whether extraction for irrigation, or leaving water in the river to provide for conservation or recreation.

Once wide support for a community water resource management approach was achieved, the next steps included:

- Working out fair and sustainable allocation regimes and draft 'supply agreements'
- Developing bulk water storage options
- Teaching users how best to monitor their water use
- Establishing a collaborative catchment management group to represent wide community interests

A community band together to address an issue...

Watertight solution.

The project has developed a three-tiered 'Community Self Management Model':

1. **Central and Regional Government** sets the policies, rules, and standards.
2. The **Upper Taieri Water Resource Management Group** is an umbrella group, liaising with the regional council, and discussing and gaining consensus/developing policies for water right transfers, reporting, monitoring, low flow rationing, and infrastructure development.
3. **Four sub-catchment groups** operate under single consents, managing and transferring water within their area, while meeting environmental standards, rules and consent conditions.

As the model is achievable right now, under the current legislation, the group anticipates setting up an effective community-led and agreed allocation model well before the 2021 deadline.

Role models.

The Upper Taieri project has come up with a system for water allocation which results in:

- Better community and agency relationships
- Cost efficient, transparent resource monitoring
- Smoother RMA processes
- More efficient use of water
- Better environmental outcomes
- Secure outcomes for everyone

Along the way, the group realised it is far better to openly and honestly discuss issues and ideas from day one, rather than continue to battle over a scarce resource through hearings and environment court.

Their model of broad involvement, involving stakeholders other than irrigators, is an approach that can be used by others in over-allocated catchments.

For more information on this Project see:

www.landcare.org.nz/regional-focus/lower-south-island/upper-taieri/

This leadership has not gone unnoticed by those working on water allocation models at the national level. Following a visit from Agriculture and Forestry Minister, David Carter, and Alastair Bisley, Chair of the Land and Water Forum, the Ministry asked the Project to host a national workshop for national policy makers and water stakeholders in March 2010.

NZLT Project Coordinator Gretchen Robertson says,

"It is great to see a community band together to address an issue that could just as easily be put into the too hard basket. The upper Taieri community are showing great courage to step back and ask 'how best can we manage water resources for whole of community benefits'. It is an honour to be involved".



Top tip.

Include all stakeholders from the start and let everyone have their say to develop a lasting result.

Gretchen Robertson,
NZLT Project Coordinator

