

Waterlines

RURAL OTAGO'S WATER UPDATE



Winter 2016



Brendon and Paula Cross on their award-winning Portobello property Roselle Farm.

Award winners combine business smarts with environmental focus

Portobello couple Brendon and Paula Cross's star performance at this year's Ballance Otago Farm Environment Awards wasn't just down to their on-farm focus on sustainable land use.

It was also down to their extensive community involvement and preaching what they practice.

Brendon and Paula won the Supreme Award, the Otago Water Quality Management Award, the Beef and Lamb NZ Livestock Award, and the QEII National Trust/NZ farm Environment Trust Farm Stewardship Award.

Their impressive haul of trophies was matched by the long list of key attributes the awards judging panel found their farming operations exemplified.

These included:

- A commitment to enhancing water quality; initiating water testing at three sites; placing a priority on riparian fencing, doing stream health assessments, and developing an environmental management plan.
- The long-term development of farm management practices to improve sustainable land use – including erosion control and mitigation, and

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efficient nutrient management with a focus on reducing discharges of potential contaminants into Otago Harbour.

- A dedication to weed and pest management – providing production and community benefits.

The Crosses farm 200ha Roselle Farm and 618ha of leased land on the Otago Peninsula, with nearly all of their breeding operation focused on sheep.

According to the awards judges, the Crosses have struck a balance between maintaining above-average production while enhancing and protecting the environment.

This is a key objective of the new water quality rules in the Otago Water Plan – encouraging landowners to maximise their earning potential through innovative land use techniques which ensure they comply with the rules.



Brendon with some of his newly-planted trees.

The judges said the Crosses' farming operation is underpinned by "well-developed business planning and an extraordinary commitment to community and building relationships".

The awards judges were struck by the Crosses' awareness of the potential effects of their land management on water quality, and their willingness to seek answers to water quality problems. This was a big factor for the judges in choosing Roselle Farm over others for the ORC Quality Water Award.



The Otago Regional Council is a longstanding regional partner and supporter of the Ballance Agri-nutrients Otago Farm Environment Awards, through its annual sponsorship of the Otago Rural Water Quality Award.

The rural water quality award not only recognises compliance with ORC rules, but encourages high standards of innovation in on-farm land management and practices which sustain and support healthy surface water and groundwater.

ORC is pleased to be associated with the awards, which over the years have showcased some outstanding exponents of imaginative environmental management and land protection techniques.



Paul Hart (left) and Greg Kendall with their award-winning portable crossing which helps reduce the environmental impact vehicles have on waterways.

Smart innovation wins foresters ORC award

The combination of a flair for design and an eye for the environment has won two Otago foresters an industry excellence award sponsored by the Otago Regional Council.

ORC chairman Stephen Woodhead recently presented Greg Kendall and Paul Hart of Ernslaw One with the Forestry Environmental Management Excellence Award at the Southern Wood Council Forestry Awards 2016.

Mr Kendall, the manager of Ernslaw One's Naseby forest, and Mr Hart, the company's operations supervisor, won the award for their contribution to managing the impacts of vehicle movements through waterways.

Putting their carpentry knowledge and skills to good use, the pair developed a wooden crossing made of untreated Douglas Fir or larch based on a cattle stop design, with a wooden causeway on top and steel bracing.

This design keeps vehicle wheels out of the water at crossing points, and also keeps vehicles out of the stream bed. It allows for fish passage, and reduces or eliminates the harmful effects of travel through the waterway such as sediment disturbance.

The structure is not suspended, so does not require engineering approval, is low-cost, has a life expectancy of around 5-10 years, is relocatable and is held in place to stabilise it when flows are high.

This design could easily be applied to other situations such as farm crossings, and has received a Code of Compliance from ORC.

"...it is pleasing to see the innovative solutions being developed by the industry."

Congratulating the pair on their success, Mr Woodhead said industries like theirs needed regulatory parameters that not only lined up with the community's environmental expectations but also allowed them to get on with business.

"Our region's water plan encourages landholders and operators to take responsibility for the environmental effects of their activities – it is pleasing to

see the innovative solutions being developed by the industry."

Mr Woodhead said the plan identifies obvious poor management practices which we don't want to see in the region.

"But more than that, it says to landowners: 'here are the targets you need to meet, you know your operation and how you want to run it – you determine how best you do that in line with the targets.'"

Southern Wood Council secretary Brent Apthorp said the awards covered all major forest owners and most of the major wood processing companies in Otago and Southland.

They profiled the contribution the industry made to the region's economic and social well-being, celebrated the success of those who had achieved formal training qualifications during the year, and through a series of new awards, recognised the industry's top performers from across the lower South Island, Mr Apthorp said.



The Cardrona River from above the water (left) and underneath (right).

Much to be proud of with Cardrona water quality

A major ORC study of water quality in the Cardrona River catchment has found that it is generally very good.

The study combines the results of long-term (State of the Environment or SoE) monitoring at one site in the Cardrona River and intensive water quality monitoring and ecological surveys at seven additional mainstem sites and three tributary sites undertaken in 2014-2015.

The results indicate that water quality in the upper Cardrona is generally very good, but the lower catchment downstream of the SH6 bridge has high concentrations of total nitrogen (TN) and nitrate-nitrite nitrogen (NNN), which are likely to exceed the Otago Water Plan standards.

Analysis of data collected from the Mount Barker SoE monitoring site between 2000-15 showed that changing irrigation practices (conversion of flood irrigation to spray irrigation) may have brought about an improvement in water quality, due to significant reductions in concentrations of *E. coli* and suspended solids.

Brown trout and rainbow trout are able to thrive in much of the mainstem of the Cardrona and most of its tributaries.

Nitrate concentrations in the lower Cardrona don't pose any risk to the Clutha/Mata-Au because the water volume leaving the catchment during summer when groundwater in the Cardrona dominates is low compared to the Clutha/Matau-Au.

The length of the Cardrona is about 40km from its confluence with the Clutha/Matau-Au to its headwaters.

ORC manager resource science Dean Olsen said the local community could be proud of the study results, even though some improvements in water quality are needed in parts of the river to meet the standards contained in the water plan.

Dr Olsen said the study results will be used to guide future policy decisions and promote good practice among the community and other stakeholders to maintain and enhance water quality in the catchment.

The full technical report is available on our website www.orc.govt.nz

Timing of the essence in deemed permit conversion process

We have the gold miners of old to thank for many of the irrigation schemes which today power our rural economy. Many landowners use water from races, dams, and channels carved into the landscape by those miners.

Back when the old mining privileges were granted they were done so on a first-in, first-served basis, which led to some users getting priority over others. No one looked at how much water was available to use or gave any thought to protecting in-stream flows and river habitat.

In 2012, in consultation with our community, the Otago Water Plan was updated to set out ways of managing how water is taken and shared among users. These users said they wanted the water managed locally and for groups of people to be able to work together to use this water.

We support this and are encouraging deemed permit holders to start the process of converting to RMA permits now. This will ensure that water

use will follow irrigation industry best practice, and lead to more efficient irrigation techniques and reduced runoff and wastage, benefiting both irrigators and the environment.

Putting a consent application together takes time. The deadline of 1 November 2020 might sound like a long way away, but it's fast approaching. Getting in now will ensure the application is complete enough to be received and processed, and that any revisions can be made well before the deadline.

If applications are made any later than 31 March 2021, the permit holder risks losing the ability to ever take water. ORC will support water users as much as possible to transition to the new consenting system. However, the ultimate

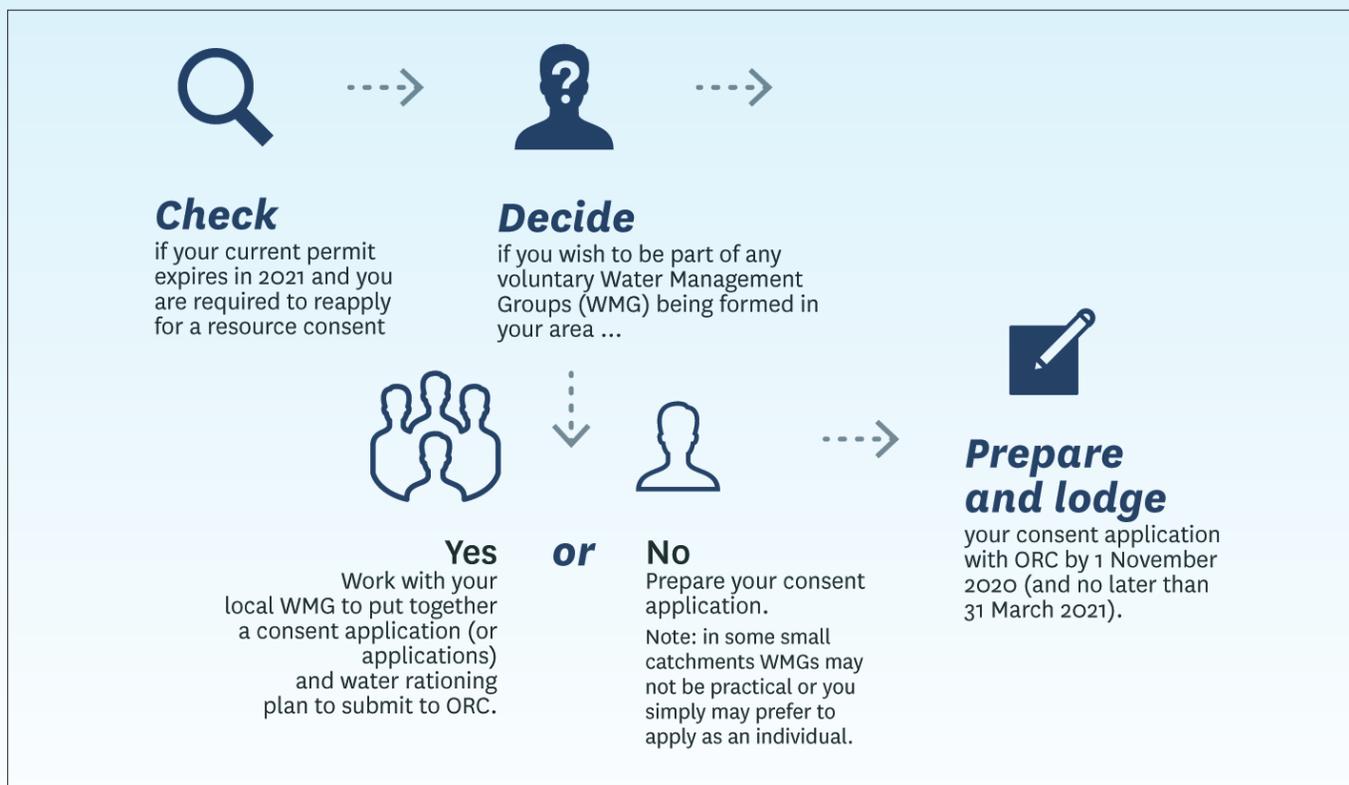
responsibility for making the application change lies with those who know their patch best – the users.

Forming a water management group to hold a consent or consents isn't compulsory under the water plan – an individual is just as eligible to seek a new consent as a group.

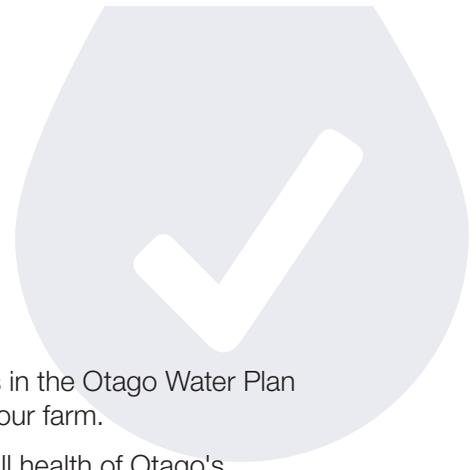
However, from a practical and economic standpoint, forming a group is well worth considering.

Following the approval of the Sowburn Water Company application, several catchments are also forming groups, or are preparing to renew their permits.

We are working with communities to help bring groups together, and our consents team is also working with groups on pre-applications.



Are you Plan 6A ready?



Take the first steps!

We've listed here the first steps needed towards meeting the rules in the Otago Water Plan and increasing your responsibility for the quality of water leaving your farm.

You, along with everyone else in the region contribute to the overall health of Otago's waterways. It will take an effort from everyone to make a difference.

TICK WHEN COMPLETE

1. Nutrient Budget

The Otago Water Plan requires you to collect the information needed to run an Overseer® nutrient budget. This helps you know how much nitrogen you could potentially leach to groundwater.

Have you completed a year-end actual nutrient budget using Overseer?

2. Observe what's happening on your farm

Do you have any rivers, creeks, or waterways running through or from your farm? If so, visually check the basic aspects which will reduce water quality.

- Can stock access waterways?
- Is there bank damage caused by stock?
- Are there discharges from pipes or drains?
- Is there irrigation runoff or ponding?
- Is there runoff from wintering paddocks?
- Is there runoff from effluent application?
- Do you have natural or constructed wetlands that can act as filters and retain sediment on-farm?

3. Water testing

Discharges from rivers/creeks, drains, and swales on your property can become degraded by activities on your land. You should find out what impact your land use is having on water leaving your property. Start water quality sampling so you can understand more about your impacts.

Encourage your farming neighbours and friends to make a start too – working together allows you to learn from each other and make the experience more enjoyable.

For more information see the ORC booklet Sampling water quality on your farm – available on our website www.orc.govt.nz

ORC acknowledges the co-operation and assistance provided by the NZ Landcare Trust's Kakanui Community Catchment Project (KCCP) in preparing this checklist.



ORC urges flexible approach to stock fencing proposal

The Otago Regional Council is urging the Government to address the issue of stock and water quality but not through blunt fencing regulations.

The Government wants to exclude dairy cattle on milking platforms from waterways over one metre wide by 1 July 2017, and ultimately extend this to land used for dairy support, beef cattle, and deer.

In a submission on the Government's consultation document *Next Steps for Freshwater*, ORC says the 'one-size-fits-all' approach to fencing is likely to be unworkable, especially in Otago, due to the variety of topographic conditions and complex waterway systems in NZ.

ORC is concerned about the combined impact of stock intruding into all waterways on pastoral land, not just those waterways which are one metre wide. Small rivers are just as important to manage well for cumulative effects on water quality.

The Otago Water Plan doesn't require landowners to fence off waterways, as there are alternatives to this, such as riparian

planting, which many Otago landowners already actively carry out to achieve the same outcome we are seeking – good water quality.

ORC is concerned that a blanket approach to fencing waterways could harm areas with outstanding natural features and landscapes such as Otago's high country and the catchment headwaters feeding the alpine lakes.

For example, construction earthworks risk causing irreparable change to those outstanding landscapes, as well as risking erosion and sedimentation damage.

The council has asked the Government to ensure that any regulation of stock in and near water focuses on avoiding undesirable effects on the environment, such as:

- induced pugging, slumping or erosion of the bed or bank

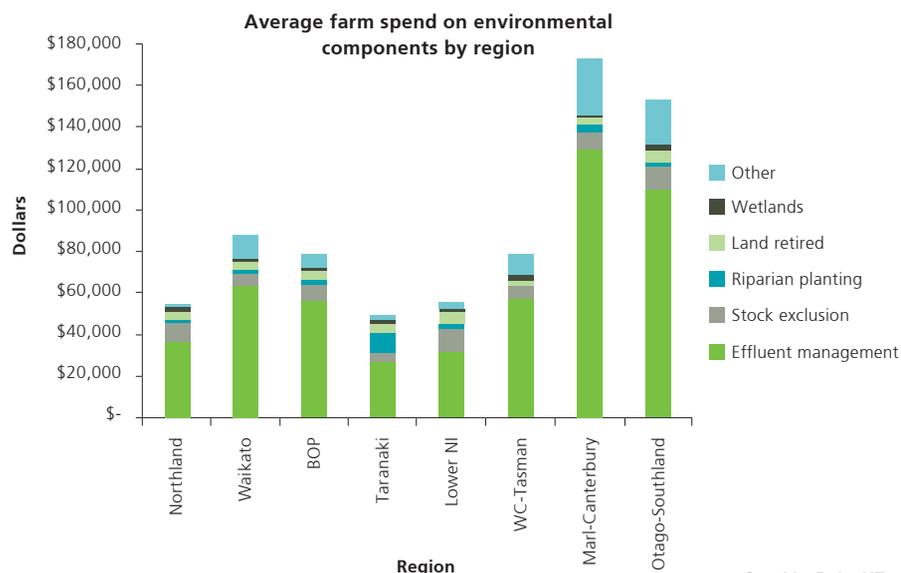
- conspicuous discolouration of water
- an increase in local sedimentation
- floatable or suspended organic material
- odour, oil or grease film, scum or foam.

ORC has also asked that if the Government forges ahead with a regulatory approach to fencing, then it should also require landowners to assess the potential risk associated with such projects, and take into account their likely effects on the environment, and factors such as:

- stock type and grazing density
- topography and soil type
- climatic and hydrological characteristics
- sensitivity of the receiving environment.

A nationwide survey conducted last year by Federated Farmers and Dairy NZ found that on a per cow basis, dairy farmers in Otago-Southland spent the most over a five-year period on environmental initiatives (mostly on effluent system upgrades) at around \$260 per cow.

The regional spend for for Otago-Southland for such initiatives was about \$200 million, the third-highest in the country behind Waikato and Marlborough-Canterbury.



Graphic: Dairy NZ

Communities respond brilliantly to low flow situation

We are at the tail end of another dry irrigation season, with El Niño affecting river and groundwater levels throughout the region.

Water-takers throughout the region are to be commended for the responsible and collaborative way in which they responded to this event.

We have seen an extremely high level of compliance with consent conditions and users responding swiftly to our requests to reduce taking water and stop taking altogether when required.

Communities have done an outstanding job of adhering to minimum flows, and sharing and rationing what water is available.

Although the El Niño conditions have weakened, we will continue to monitor the impact of this on rivers, aquifers, and soil moisture levels in the region.

Urban water quality improvement on the agenda

ORC recognises that cities and towns in Otago have an impact on water quality in our rivers, lakes, and coast.

Good progress has been made towards reducing major causes of waterway pollution due to wastewater overflows from domestic and industrial systems, but as technology in this field advances, more can be done.

We will be looking more closely at the impacts our urban communities have on water quality in 2016-17. This will involve consultation with the community, city and district councils, iwi, New Zealand Transport Agency, and Public Health South.

A Water Quality forum is planned with key stakeholders to identify and share information about management of these resources. From this, an Urban Water Quality Strategy complementing the existing rural water quality provisions in the Water Plan, and a Coastal Strategy for Otago will be developed.



Velvetleaf vigilance needs to be maintained

The immediate threat from velvetleaf has been tackled but the fight against the invasive pest plant isn't yet won.

As of the end of May, the total number of Otago properties where there were positive detections of velvetleaf stood at 45, out of a national total of 251.

ORC director of environmental monitoring and operations Scott MacLean said about 200 plants from 52 properties were found and destroyed following the completion of several hundred inspections.

Mr MacLean urged Otago farmers on properties where velvetleaf plants had been removed from fodder beet crops to be on the lookout, as some seeds may have dropped from the plants before they were removed, creating the potential for them to germinate.

He also urged farmers who hadn't checked their crops for possible velvetleaf infestation thinking they weren't affected, to be vigilant.

If you notice velvetleaf recurring on your farm or appearing for the first time, ring MPI on 0800 899066, or for resources and information, visit www.mpi.govt.nz or www.orc.govt.nz

