Rural Otago's water update

# Waterlines



Spring 2017



# Happy cows thanks to sustainable farming

Georgie McCall was raised on a sheep and cropping farm in Canterbury and initially took no interest in farming. That all changed when her parents converted the farm to dairy about 20 years ago.

She started out helping the sharemilkers when she was 13 and worked her way up to calf rearing. As she got older she worked full-time on the farm in the school holidays.

After graduating with an honours degree in agriculture science from Lincoln, Georgie took a job with Environment Canterbury to help farmers with environmental sustainability. A lightbulb moment as the calving season approached made her realise dairy farming is her passion.

"I love the challenge of farm management. It's like a big jigsaw and you have to put all the pieces together," Georgie says. Her husband Adam was never going to be a dairy farmer, but Georgie's enthusiasm won him over. They now have a 310-hectare self-contained farm alongside the Pomahaka River in West Otago, in equity partnership with Adam's parents.

There have been a lot of changes since they took over the farm 11 years ago. Back then a sump only held effluent from three to four milkings, which gave them no flexibility around irrigating.

This was replaced with a 90+ days storage pond, and they also doubled the irrigation area from 50 to 100 hectares so they could better utilise their effluent. A second travelling irrigator means they can empty the pond faster when conditions are suitable.



"We can use it like a water irrigator, so instead of the effluent being a waste product we can use it to keep the paddocks going," Georgie savs.

Georgie McCall

"It's had a lot of benefits because it also spreads the potassium load across the paddocks, which is better on the cows. Another bonus is that our staff don't have to irrigate on the weekends. It's also helped our stress levels

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because we don't have to worry if it's raining or snowing; we have enough storage," she said.

The two irrigators have cut-off systems and will stop if the wheels stop moving. They train their staff to not only use the irrigators correctly but also to watch them like a hawk.

"A lot of it is common sense," Georgie says. "It's not a hard job, but it's important to know how to do it properly and to make sure staff are well trained and understand our expectations."

The other big change on farm happened a couple of years ago when Georgie and Adam converted to once-a-day (OAD) milking with their 650 cows. A number of factors led to this:

- The farm is 4 km long with the dairy shed in the middle. The cows had a long walk and the couple needed additional labour to sit behind the cows twice a day and deal with lame ones
- OAD milking has relieved the • pressure on needing additional feed
- Having two off-site beef blocks at Edievale and Roxburgh means they have the time to retain control without needing to put a manager on the runoff blocks.

"Converting to OAD is one of the most challenging things we've done," Georgie says. "The information available a few years ago when we started looking into it is poles apart from what's available now, so taking the plunge was scary. But going forward we think it's going to be a good move, once we've ironed it out."

#### The benefits are already noticeable:

• Time on the yard has dropped from six to three-and-a-half hours a day and it only needs to be washed down once a day



Family fun on the banks of the Pomahaka River

- They milk around 10 days longer in the season because the cows are in such good condition
- Cows are dried off at a Body Condition Score of 5 and therefore only maintenance feed is required over winter
- ٠ The number of lame cows has been significantly reduced
- Improved reproductive performance
- Staff have more variety because they're not just milking, and they are retaining staff for longer
- Family life with their two young children has improved because they have more flexibility in the afternoons.

"The perception is that cows on OAD eat less but we haven't really found that. They just partition more feed into maintaining body condition," Georgie says. "A local man has told us our cows look like they are the most relaxed in the area."

Georgie and Adam are also building up the soil structure on the farm by encouraging microorganisms instead of relying on synthetic fertiliser. They are already seeing an improvement in young grass performance, and they like

being able to reduce their nitrogen usage.

"A local man has told us our cows look like they are the most relaxed in the area."

She sees farming next to the Pomahaka River as a privilege for her family. The effect they have on the river is always at the forefront of their minds.

Regular water testing gives clarity around what impact they are having and where they can make improvements. Georgie is an active member of the Pomahaka Farmers Water Care Group and is really excited about what the group can achieve. Her family gets a lot of enjoyment out of the river, whether it's bonfires and fireworks in winter. or summer afternoons at the swimming hole.

An improved effluent system, the conversion to OAD milking, re-building the soil, and on-farm water testing combined with riparian planting, has given Georgie peace of mind that not only are she and Adam looking after the environment and the welfare of their cows, but that they also have more time to spend with their growing family. Georgie has shown that it's possible to strike a good balance.



Dairy farmer Duncan Wells discusses farming and the environment with students from Otago Girls' High School

## Students learn about farming while looking after the environment

Duncan Wells is a third-generation dairy farmer. His English wife Anne-Marie comes from a business background and didn't own a pair of gumboots when she met him, but they have combined their talents and are now in their seventh season running a 181-hectare dairy farm on the Taieri, with 600 cows.

Eleven Year 13 economics students from Otago Girls' High School recently visited the Wells' farm to learn how dairy farming can be carried out in way that is friendly to the environment. ORC was invited along to talk about our Water Plan rules.

The purpose of the students' visit was to learn about farming in an environmentally-friendly way. After a brief run-down of the farm and a tour of the milking shed, we were shown the effluent infrastructure while Anne-Marie and Duncan talked about the importance of responsible effluent management and irrigation.

Seeing the contents of the sump was enough for the students to screw up their noses, despite there being no smell. They hung around this area just long enough to learn about the effluent tank that holds one million cubic meters of effluent, and has an impressive traffic-light system designed and built by Duncan that measures the pond level and reflects how much storage there is.

Anne-Marie explained the eyewatering investment they've put into the infrastructure and technology to make sure their effluent system is up to scratch,

and that being able to sleep at night and know they are doing the right thing is worth it.

We were impressed with how Duncan described OVERSEER to the students. He said they can see a lot about how well things are going on the farm with their eyes, but OVERSEER helps them with something they can't see by telling them the calculated level of nutrients being lost through the soil profile and potentially into a waterway, which can harm the fish living there.

He said they combine the OVERSEER data with best practice to make sure they're doing everything they can to look after the environment. Their nitrogen limit is 30, and Duncan said they currently sit between seven and 12.

We also liked seeing that they collect and recycle the plastic from their baleage, which they said is an effort but worth it if it can be re-used or made into something else. ORC liaison specialist Nicole Foote piped in to say park benches are sometimes made from it. It's a nice thought that people sitting in a beautiful spot to enjoy nature are perched

on recycled silage wrapping that could have ended up in landfill.

Duncan and Anne-Marie also discussed the importance of animal welfare, and environmental aspects such as making sure waterways are fenced off, and ensuring soil is looked after through the prevention of pugging and only applying effluent and fertiliser when needed.

The visit concluded with an impressive display of a giant fodder beet, which Anne-Marie described as, "The lollies of cow food." The students also had fun patting some friendly calves.

Anne-Marie is part of the Agriwomen's Development Trust Escalator Programme, which takes 14 women through a leadership and governance course each year. One of her goals for the farm is to host at least six groups each year to share what they do with the wider, non-farming community.

The high school students were one of the first groups to benefit from this and enjoyed learning about how the practical aspects of farming are combined with technology and science to look after not only the animals, but also the environment.

# **Slink collection –** what are your options?

Some companies aren't offering a slink collection service in Otago (and Southland) this year because of a market downturn in the demand for skins, and because there are stockpiles of skins from previous seasons.

It's a timely reminder to make sure you dispose of any lamb or calf carcases responsibly if you use an offal pit on your farm.

If you are burying carcases in an offal pit, make sure you know the rules:

- Offal pits must be at least 100 metres away from any wells
- Offal pits must be at least 50 metres away from any waterways or property boundaries
- The pit must be dug in a way that there is no groundwater seepage into the pit, or leachate from the pit cannot enter any waterways
- The offal pit must not cause a nuisance and cannot be noxious, dangerous, offensive, or objectionable beyond the boundaries of the property

Make sure you also follow any rules or guidelines set by your meat or milk processor.

Please dispose of carcases as soon as you can to avoid biosecurity risks.

If you have any queries about carcase disposal please call one of our liaison specialists or environmental monitoring officers on **0800 474 082**.

# HOW DOES YOUR FARM STACK UP?



The awards are a great opportunity for you to get an assessment of how your farm is doing. You'll get independent feedback about what else you could be doing to not only help the environment, but also your business. Past entrants have found the process invaluable so don't miss your chance to enter.

Entries close 31 October. Go to www.efea.org.nz to find out more.

Ben and Tanya Davie were the 2017 winners of the ORC Quality Water Management Award. You can find out why they won in the summer issue of Waterlines, which is due out before Christmas.



# What's your take on residual flows?

In this article, we explore residual flows and explain why we're developing changes to them, as well as letting you know how you can help shape the future of them.

A residual flow is an amount of water that must remain in a waterway where water is being taken. Leaving water and not pumping waterways dry is fundamental to supporting riverine ecosystems, downstream communities and livestock. It also protects the natural character of the waterway, giving people pleasure through active and passive recreation, and enables the economic use of water when it is available.

This article outlines four reasons why ORC is reviewing the residual flow provisions of the Regional Plan: Water for Otago (Water Plan). The experiences of the wider Otago community and ORC staff dealing with applications for water permits are also being taken into account.

Currently, when a person or company applies for a surface water permit, ORC staff consider the residual flow provisions of the Water Plan. In assessing a surface water permit application, we must ensure the amount of water that will remain in the river after the abstraction is sufficient to protect aquatic values and the natural character of the waterway.

However, since those provisions were put in the Water Plan in 2004, people have been telling us that there should be a wider range of values protected by residual flow conditions. We've heard that ORC should be able to consider leaving water for downstream water users, irrespective of whether they are water takers or want to use the water for recreational purposes.

People and companies who hold surface water permits also tell us that it can be difficult to measure the residual flow level at the location where they take water. We've heard that sometimes there are physical restrictions on the ability to install any kind of measuring device.

The Water Plan doesn't allow them to measure somewhere else that would be physically easier – or even possible – to take the measurement. This lack of flexibility creates issues with compliance, or forces 'workaround' solutions that can be expensive and difficult for the permit holder. There is uncertainty about how a residual flow is determined, as the Water Plan doesn't provide guidance on this. Therefore, a consequence is often tension between permit holders, affected parties and ORC staff. This tension can increase the cost of obtaining a permit, and results from a lack of clarity around how a residual flow level is determined.

With the upcoming expiry of deemed permits, many permit holders are exploring working together as water management groups to manage water in their catchment. The way the current provisions work means that each of them will need to measure their own residual flow level.

We're hearing that groups want to be able to measure the residual flow at one practical location, thus reducing the cost and burden of measurement. Reviewing the provisions for this could provide the flexibility to support group surface water take applications.

If you want to learn more, check out our website for contact details and information **www.orc.govt.nz/ residualflows**.

# Saving the soil

Having good soil is a farmer's most important asset. There is a growing movement to alter farming practices to make sure the soil is looked after by putting on less fertiliser, planting multi-species crops, and modifying cropping practices.

It was sitting on a tractor for hours that got Hamish Bielski wondering why ploughing wasn't preventing soil compaction and fertiliser wasn't improving soil health. He thought there must be a better way.

The South Otago farmer has been experimenting with a new system on his farm and after a couple of years is already seeing improvements. He also feels good that he's farming in a more environmentally-friendly way.

"It costs me money if I lose soil, and the system I've been trialling not only keeps more soil on the paddock but also improves the soil health." Hamish said.

It also minimises runoff both overland and through the ground, which means there is less risk of sediment and nutrients reaching waterways.

"It's a simple approach that's been backed by research and science, and I can't believe I didn't cotton onto it years ago. What opened my eyes is that farming outcomes can be improved through a system, not a product."

The answer to soil health has been regenerative farming.

Hamish plants a number of crop species for winter feed, including kale, rye corn and clover, with a small patch of fodder beet in the middle of his grazing paddocks.

He's conscious of the rolling hillsides in South Otago and wants to make sure he doesn't lose any of that precious soil or have runoff, which is why he's happy with the outcomes of the multi-species planting.

When Hamish pulls up a kale root to check the soil underneath, it's loose and crumbly. He's confident that although cattle would result in more compaction than the sheep he predominantly grazes, there would still be less impact than on a bare soil.

"I can walk across a grazed area of multi-crops on a wet day and not lose my grip," he said. "I've also noticed better utilisation of the crop because the stock aren't trampling it into the ground."

## Hamish plants his crops based on the following principles:

### No mechanical disturbance of the soil

Ploughing the soil damages the soil structure and biology so he no longer tills.

### No bare soil

The plant litter acts as a filter for water and nutrients, and minimises compaction.

### A live root in the ground at all times (or at least as much as possible)

A lot of nutrients are stored in the root zone and keeping these in the soil prevents nutrient loss.



Hamish Bielski

#### Biodiversity - planting multispecies of forage

Having more than one crop helps the biology of the soil, provides natural compost (e.g. rye corn), and can double or even triple the root system. This approach also builds more topsoil, reduces the need for fertiliser input, and encourages beneficial bugs in the soil that will reduce the need for pesticides. The magic mix includes grasses, legumes, and herbs.

## Long rotations of stock between each pasture

Giving pastures a decent rest before stock grazes on them again allows longer root systems to grow, which act as a thermal regulator for the soil.

## So how does this help water quality?

Multi-species cropping means you can plant crops that have a longer root system. This not only aggregates the soil but also helps it act like a sponge to take up more water in wet weather, and retain it in dry weather. This allows more



#### Before grazing

grass to grow in dry conditions and slows groundwater flow in wet weather (which is especially important in areas where there are tile drains).

Hamish spent more hours than he'd like to count on YouTube before he took the plunge to try the new system. In the end, the overseas examples he studied convinced him that he could produce more under this approach than with conventional farming methods, while at the same time needing substantially less inputs.

He admits he's gained a few grey hairs since trialling the new farming approach, although he's now nailing down what works.

"When you're doing things on a large scale it's a big risk, and there are a few people keeping an eye on what I'm doing to see how successful it is before they decide if they'll give it a go on their farm," he said.

"I'm excited about what's ahead for us in terms of growing highquality crops, and I've realised that it's not just about what we farm, but how we farm," Hamish said.

Hamish's goal is to produce 12 tonnes of dry matter each year. He's still working his way up to that, but results have improved year on year and he's confident his risk will pay off with not only high production, but healthy soil.



#### After grazing

## Farm facts

## 300

hectares (60 planted in arable grain)

1100

ewes

## 250

hoggets

## 900

hoggets (grazed)

50 vearling cattle



## 8

can be appealed to the Environment Court.

## PROSECUTION

Charges are filed through the district court and the case is heard by a judge who is also an environmental judge, and who decides the



Martin King, ORC manager environmental services, and Richard Lord, team leader biosecurity compliance, inspect a broom bush infected with broom gall mite.

# It seemed like a good idea at the time

In the 1800s, settlers to NZ introduced broom so it could be planted in hedges. What was intended to be a decorative and functional plant thrived in our climate and soon became a pest plant as it invaded the landscape.

Broom is usually controlled by either digging out the bush, or cutting it down and treating the stump. At ORC we've been quietly working on a project to test the effectiveness of broom gall mite, which is a tiny bug that can stunt the growth of broom, and eventually kill it.

It's a long-term approach and requires patience, but good things take time and what we've seen so far looks promising. In late 2012 we released broom gall mites at two sites in Central Otago, and while progress started out slowly, it took off last summer.

The mite is slow to establish and needs to be spread to new sites with help from humans. We had an exciting surprise at one of our release sites, where the mite has spread out over 400 metres from the original release site, which is further than expected.

The mites themselves are tiny, but the galls (deformed lumps on the bush) are easy to spot. The mites live and feed in the galls during spring and summer, and move to new stems as the weather cools and the galls start to wither.

The mites spread on the wind, so infested plants need to be harvested to move the broom mite to new sites. The best time to do this is in early summer, and it's as easy as tying a branch with at least 50 galls on it to a healthy broom bush, then waiting for the mites to move across to the plant and start feeding on it. Once we have enough galls at our original release sites to harvest them, we want to see how well the mite copes in wetter areas so we can eventually spread the mite to coastal areas of Otago.

The broom gall mite was brought into New Zealand by Landcare Research, and is establishing in a number of areas around the country. Thankfully the mite only likes broom, so won't damage any other plants.

Broom grows almost anywhere, and survives up to 1500 metres above sea level. It flowers in early spring with bright yellow flowers, and develops into pods by summer. It can grow up to three metres tall and can take over native tussocks. The seeds can be viable for up to 100 years, which is why it's important to keep on top of it.

Over half of Otago (16,784 square kilometres) has been designated as broom-free. These areas are Queenstown, Wanaka, Cromwell, and Alexandra, and land occupiers need to destroy all broom (and gorse) on their land. At ORC we hope to extend this area when our Pest Management Strategy is reviewed, which is underway now.

Biosecurity is not always glamourous or fast-paced, but it's an essential part of our work at ORC to keep pest plants such as broom from affecting biodiversity and taking over our beautiful landscape.



A workshop at the Arrowtown Bowling Club

# Pointing the arrow to water in the Wakatipu

Water: it sustains life and creates an environment that draws people to live, work, and play in the Wakatipu Basin. Let's look closer at what's happening to preserve the availability and access to this precious water resource.

Standing on the banks of the Arrow River, it's easy to see and appreciate the water that we play in and enjoy being around. What is harder to see and appreciate is the water we take from below our own feet. We're talking about water from the nine different aquifers that exist under the Wakatipu Basin. These aquifers supply many residents and properties with essential water.

When it comes to how much water is available, such thinking often creeps to the forefront of our minds when planning (or worrying) about the summer ahead, and how much water might be available to sustain our animals, crops, or livelihood. Sometimes this isn't a slow creep toward the forefront of our mind, but the slamming reality of a life relying on water.

ORC staff have been talking with the Wakatipu Basin community about what they value about the water in their area; how they use it and what they use it for, as well as what they believe needs protecting about water and the environment it creates in the Basin.

So why is ORC interested? We have a role to play in ensuring water is available for future generations; to make sure our environment is sustainable and in the best shape for our children and grandchildren. To do this we are developing a change to the Water Plan to set a minimum flow level for the Arrow River catchment. This minimum flow level ensures that our use of water does not jeopardise the life of fish and plants, or the natural character of the river.

We are also exploring the best way to manage the amount of water allocated for use from the Wakatipu Basin aquifers. Setting an allocation limit prevents people from taking more water from an aquifer than is naturally able to be replenished.

After hearing the views of more than 90 people from the wider community earlier this year, we are summarising what we heard so you can see the broad range of views from your community

We are also busy exploring a range of options that could work successfully for the river and aquifers. Once we have developed some options, we'll be seeking independent reports on the social, economic, and cultural impacts of those options. We will then bring that information, with the options, back to the community for further discussions in November.

We'll be seeking your views on which option you feel would be best for the Arrow River and the aquifers. Once we've heard that, we will look to refine one of those options into a plan change and then come and see what you think before we formally notify the proposed plan change.

If you want to learn more about this issue, the process, or how you can be involved, go to: www.orc.govt.nz/Arrow. You are

also welcome to contact the Water Quantity team on **0800 474 082**.



# A day in the life of...

The September flooding had a big impact on many farmers in Otago; on the Taieri and in South Otago in particular. It seemed fitting that Lisa Gloag should spend a day with engineering officer Dan King, who manages the flood protection scheme in the Clutha.

"Pack your gumboots," Dan advised me.

I had been on leave and flew back home just after the flood had peaked. My son had to give up his window seat so I could see how bad the flooding was as we flew over the Taieri. I was shocked.

ORC staff members worked around the clock for over two weeks during and after the flood. They were busy draining water from farmland and areas of housing as quickly as they could. The flood protection schemes worked well and performed exactly how they were designed to, however it's never good to see farmland and houses under water.

The chance to learn about what's involved in looking after a flood protection scheme was sadly timely.

Dan has been with ORC for less than a year but has quickly learned the ropes. He lives in Dunedin and travels to Balclutha most days. Dan studied horticulture and has a background in civil construction and earthworks. He's always had a passion for the outdoors and the environment, and this job fits the bill. It's lucky he loves being on the go because there's little downtime during his long days.

After an early departure from Dunedin, our first stop was to pick up a contractor in Balclutha so Dan could get a quote for repairing the rock groyne at the Koau mouth of the Clutha. This structure prevents the river mouth from blocking up, and the storm caused significant damage to it. When it was built in 1983 it cost around \$1.5 million. To build the same structure today would be almost six times that, so it's important to not lose it to the sea during storms.

Dan and the contractor talked shop and discussed logistics before we headed back to town, via another job he needed a quote for. This one was to top trees growing alongside a river to prevent them falling over.

Dan needed to make sure the contractor knew the Water Plan rules about what can and can't be done when you work in a waterway.

Managing a flood protection and drainage scheme means Dan spends a lot of time assessing and maintaining the rock works, causeways, flood banks and drains in and around Balclutha. He calls in the engineers for a more detailed assessment when needed, and arranges maintenance work with contractors. Relationship building is a big part of the job and Dan loves dealing with people in rural areas, who he says know how to call a spade a spade.

The next task for the day was going to see a contractor who was clearing a debris dam from a river. It had caused water to back up and damage pastural land. The landowner hadn't removed slash under trees near the waterway and it washed downstream, causing a blockage and flooding. This river is home to native fish and longfin eels, and Dan needed to make sure the contractor knew the Water Plan rules about what can and can't be done when you work in a waterway.

Dan told me he always contacts iwi, Fish and Game, and DOC for jobs like this. He knows he's not the only one who loves rivers and cares about the fish that live in them. Being a keen fisherman himself, he sees rivers as nature being at its best and purest, and loves having an input into keeping them that way.

Our next stop was assessing flood damage on a stretch of river where the water had reached levels over two metres. The flood debris hanging from the trees told a sad story.

As we admired the hoar frost I managed to stand on some deceptively solid ground, only to find my gumboots filling with freezing cold, muddy water. Dan proved he's good at multi-tasking by helping me out while laughing at the same time. Thanks Dan! Thanks also for blasting the heater on my cold feet when we got back into the ute.

After driving to check on a flood blockage in another part of the river, we spent some time chatting with a farmer who spotted the ORC vehicle and came to say hi. He told us about his plans to do riparian planting beside the river on his property and before we knew it 20 minutes had passed.

Dan said he only makes appointments for the start and end of the day, because he never knows what's going to crop up



Daniel King

in between, and he wants to make sure he has the time to stop and chat with people. It's these situations that often lead to sharing valuable information that will benefit both farmers and ORC, and make everyone's job easier.

After a stop at the ORC Balclutha depot to catch up with staff based there, we headed back to Dunedin. The last appointment of the day was with a contractor who was going to clear flood debris from a drain in the Tokomairiro drainage scheme.

Not only did Dan arrange the contractor; he'd also had to contact the six land owners who had the drain going through their property, to get their permission for the contractor and digger to go onto their land. It's time-consuming for him, but a great opportunity to make sure people know the Water Plan rules.

Dan likes that his job combines his love of waterways with being able to see heavy machinery at work. He also loves that his 'office' is being out in the countryside. The variety and complexity of the jobs keep him motivated, and needing to adapt to each situation keeps him on his toes. There's only one set routine in his week – finishing early Wednesday so he is home in time to look after his two daughters after school.

Spending the day with Dan reminded me that office-based staff such as myself have little understanding about what staff in the field do, and vice versa. Today was a good chance to bridge that gap. I just wish I'd packed a spare pair of socks.



Clutha Valley School waste audit



Grant Norbury explaining how to set up a pitfall trap with Clyde Primary Envirogroup, and teacher Alistair Banks

## Enviroschools

The Enviroschools programme empowers children to create more sustainable, healthy, caring environments and places for all to enjoy.

There are 66 Enviroschools in Otago, and regional coordinator Robyn Zink has given Waterlines a roundup of what's been happening in our neck of the woods.

## **Clutha Valley School**

All 121 students at the school sifted through three days of waste, and found that 90% of it could have been recycled. They are now working out how to separate waste from recycling, and will investigate the possibility of wheelie bins being extended to Clydevale.

## St Gerard's School, Clyde Primary School, Goldfields Primary School

These Central Otago schools are working on what makes a good home for skinks and geckos. They want to develop part of their school grounds to be lizard-friendly environments and are working alongside Landcare Research to learn how to monitor for skinks and geckos to get a deeper understanding of what they need and how to care for and enhance their habitat.

## Wanaka Preschool

Children visited Wanaka Wastebusters and loved finding out what happens to the things they recycle. A highlight was seeing the 'squishing machine' that compresses cans.

# What's up at ORC?

Not all of the work we do at Otago Regional Council is focused around water. Here's a summary of some other projects we are working on.

## **Wallabies**



Identify, report and destroy. That's the message behind our wallaby campaign, where we ask the public to be our eyes on the ground so we can work together to stop these pests from spreading further into Otago. If you see any wallabies or signs of wallabies, give us a call on 0800 474 082 so we can come and investigate.

## Pest management strategy



Did you know that as a land occupier, you are responsible for controlling pest plants or animals on your land? Otago's pest management strategy is being reviewed. This strategy outlines landowner responsibilities and identifies the pest plants and animals that ORC will manage within Otago. You'll get the chance to have your say on what's included in the revised strategy so keep an eye on the ORC website and Facebook page for updates.

## Urban water quality strategy



The recent changes to the Water Plan set up a new framework for rural discharges, and we're now turning our attention to urban discharges from wastewater, industrial discharges and stormwater. Some of these discharges are still being managed under rules dating back to the late 1990s. It's time to review them to make sure the management of these discharges to water and the coast will protect Otago's environment. You'll get a chance to have your say as we gear up to address these discharges.

## **Civil defence**



There's been a change to how Civil Defence operates in Otago. Staff who were previously employed by each district and city council are now working for Emergency Management Otago. They're still based in each district but are working together with the support of a core team based at ORC. The new structure had its first real work-out in the response to the July floods in Waitaki, Dunedin and Clutha.

Research

We adopted the 2017/18 Annual Plan at the end of June. It includes more funding for several research projects. They include lake snow, scoping work for improving water quality in Lake Hayes (Central Otago) and Tomahawk Lagoon (Dunedin), and restoring the land margin around Lake Tuakitoto (South Otago). It's great to see public submissions supporting work to protect our beautiful lakes.

## Air quality strategy



Breathing clean air is something most of us take for granted. However, there are communities in Otago where air quality can be poor, particularly in the winter. The Otago Air Plan is being reviewed this year. This will include taking a fresh look at the rules for activities that could discharge contaminants into the air, such as smoke, odour or dust.



ORC staff training for an oil spill in Otago Harbour.

## 'Live' oil spill exercise

ORC staff were training on Otago harbour recently to make sure we're prepared for an oil spill. The training scenario was set by Maritime NZ and we didn't know what it was until we got there, which meant our systems and planning could be tested under a simulated 'live' event. Staff from Environment Canterbury and West Coast Regional Council joined us for the training.

While we were happy the drill went smoothly, we'll be even happier if we don't have to put it to the test for a real spill.

## **Environmental Enhancement Fund (EEF)**

ORC set up the EEF in 2015 to support activities that either maintain great environmental characteristics, or help improve environments that may have degraded. In the last financial year the EEF granted the following:

- \$5000 towards fencing the Kakaho Creek wetland north of Hampden, which is considered to be a significant natural area
- \$3624 to the Wakatipu Conifer Control Group, to purchase tools for volunteers who help to clear wilding conifers
- \$4321 to the Lindis Pass Conservation Group Incorporated, to purchase tools to clear and maintain a reserve close to SH8 of pest plants
- \$13,500 to Otago Fish and Game Council to purchase 2000 native shrubs, and tree guards and stakes to protect them

If you have a project and want help with funding, go to **www.orc.govt.** nz and search 'Environmental Enhancement Fund' to find the application form.

## **Funding for Pomahaka** Water Care Group

ORC has given \$20,000 towards a project this catchment group is setting up that will look in detail at the positive effects wetlands can have on water quality.

We're looking forward to working alongside them and helping with water quality testing and monitoring results. We can't wait to give you updates as the project progresses - the results will be useful for other groups and individuals who are establishing and maintaining wetlands.



# **Events calendar**

You'll find ORC staff at the following events...

### October

12	Shag/Waihemo Nitrogen Sensitive Zone Science Project 7-8 p.m. Dunback Bowling Club
18-19	East Otago Field Days Palmerston Sales Yards, State Highway 85
25–27	Water Quantity: Arrow River and Wakatipu Basin aquifer minimum flow and water allocation limit setting consultation
	(details of date, venue and times TBC)
31	Biodiversity and Pest Management Forum
November	
ТВС	Biodiversity and Pest Management Drop-ins around Otago
твс	Waiwera water quality summary community engagement (details of date, venue and times TBC)

## Have you signed up for **On-Stream** yet?

We have a monthly e-newsletter that keeps you up to date with what's happening around Otago.

Email us to sign up: water@orc.govt.nz



Want another way to keep up to date with Water Quality in our region?

You can "Like" 'Good Water in Otago – ORC' on Facebook for regular articles and titbits.



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