

EnviroSOUTH

July 2017



environment
SOUTHLAND
REGIONAL COUNCIL

Te Taiao Tonga

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EnvirosOUTH

Envirosouth is published three times a year by Environment Southland. It is delivered to every mailbox in the region. We welcome your comments on anything published in this magazine.

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Cover

◀ Invercargill resident Shelley Clay and daughter Paige enjoy the prizes they won from our stand at the Southland Home Show in June. You can find out more about improving air quality and the Clean Air Loans scheme in our story on page 8.



As a community, we need to raise the bar on the way we manage water.

While the *Proposed Southland Water and Land Plan* currently before a hearing panel more directly affects our rural communities, our city and district councils also play a critical role through their stormwater, sewerage management and drinking water responsibilities.

Environment Southland is working with Southland's councils in what's known as the 3 Waters project to tackle urban water issues.

We know that urban water quality improvements will require an upgrade to existing infrastructure like pipes and drains. This is a complex, expensive task that needs to be actively managed over time.

It's a big investment in our future, and as the inquiry into the contaminated drinking water supply in Hawke's Bay highlighted, it's essential that regional and local councils work together to find the best long-term solutions. Our community's health and wellbeing depends on it.

Rob Phillips, Chief Executive, Environment Southland



Right now we are working on our strategic plan to ensure we have clarity on our goals for the next 10-year Long-term Plan.

It's clear that water quality will continue to be an enduring issue for Southland.

A recent technical report, *Water Quality in Southland – Current State and Trends*, by Environment Southland is encouraging though.

Data shows some improvement in a number of our rivers, an early indication that water quality deterioration may be slowing.

While we still have a long way to go in some cases, I'm hoping this could signal a shift in the right direction. It's not something I've seen before in my time on council.

This must be heartening to all who have put in the effort and spent significant sums of money over the past decade to improve their impact on water quality.

Nicol Horrell, Chairman, Environment Southland

Environment Southland



A vibrant organisation actively enhancing the experience of living and working in a sustainable Southland.

The fight for Forest Hill



▲ From left – Forest Hill Foundation Trust board members Malcolm MacKenzie and Ken White, biosecurity officer Andrew Goodger, Trust chair Glenys Dickson and senior biosecurity officer Dave Burgess with pest control methods used in and around the Forest Hill Reserve.

Forest Hill Scenic Reserve is one of the last surviving remnants of native forest that once covered the Southland plains and a fantastic example of multi-agency pest control in action.

Situated near Lochiel on a seven kilometre limestone outcrop, it is within an Environment Southland Possum Control Area (PCA), and an island home for native species now rarely seen elsewhere.

Senior biosecurity officer Dave Burgess says the PCA programme complements pest control carried out by the Forest Hill Foundation Trust and Department of Conservation.

“They focus on the possums, rats and stoats in the reserve and we focus on possums in surrounding farmland. DOC sees it as a high value area for biodiversity.”

Trust chair Glenys Dickson says the trust’s vision is to restore the unique ecology and create a mainland island for reintroduced species. Studies show promising signs for wildlife like weta and morepork, and there are plans for a predator-proof fence around the northern block.

But pest control is challenging. Forest Hill is long and thin with farmland on every side, and pests re-invade from all angles.

Farmer Ralph Hamilton has seen days where he could shoot possums from his porch. He’s also the trust’s vice chairman and a staunch supporter of the joint efforts to control pests.

“Farmers understand the benefits of being involved in a PCA. It’s a good concept because it has flow-on effects for them and the forest,” he says.

He says while it sometimes felt like a thankless task, the trick was to look further ahead.

“It’s not about us. I’ve heard one guy say, ‘oh I’ll be in my grave before I see this fence built’; but the reality of the situation is you do pest control and they still come back. But I do it for my kids and grandkids. It’s about being community-minded and doing our little bit.”



Working together to protect Fiordland

Protecting the pristine waters of Fiordland from marine pests is the ultimate goal of the recently launched Fiordland Marine Regional Pathway Management Plan, which has solid backing from a range of groups including industry.

The first plan of its kind in New Zealand, the Fiordland plan has been a joint effort between Environment Southland and a partnership group, which includes Fiordland Marine Guardians, Ministry for Primary Industries, Department of Conservation and Ngāi Tahu.

However, the engagement and involvement of industry groups throughout the process was critical to the plan's formation, and their ongoing commitment is an important factor to its successful implementation now and in the future.

Fishing and tourism companies are naturally some of those who benefit financially

from the amazing opportunities Fiordland affords, but they are also deeply invested in protecting its future.

CRA8 Rock Lobster Industry Association chief executive officer Malcolm Lawson says while commercial fishermen can sometimes be viewed as being less concerned with the environment, those working in the Fiordland area have a very deep and special attachment to it.

“This is much more than a place to work, it's more than just an area to go fishing, and we certainly feel a stewardship approach to it.”

In fact, the commercial fishing industry has a long history of being involved in projects to protect Fiordland, including proposing the first marine reserves, the establishment of the Fiordland Marine Guardians, and the regular beach clean-ups.

“When it comes to protecting the area, it just makes sense for us. As far as fishing is concerned, it's all about habitat. If you don't look after the habitat, you don't have anything to fish.”

Malcolm says it's been great to be involved in the development of the Fiordland Marine Regional Pathway Management

How will the rules affect me?

Every owner or operator of a vessel regardless of its size – kayaks, boats, ships – will need to apply for a Clean Vessel Pass before entering within one nautical mile of the landward boundary of the Fiordland Marine Area. You will need to be aware of the standards required and ensure your vessel meets them all before heading to Fiordland.



How do I apply for a Clean Vessel Pass?

Obtaining a Clean Vessel Pass is free. It's a simple process and passes are valid for one year. You can apply or renew a Clean Vessel Pass online through the Environment Southland website www.es.govt.nz, by emailing a completed application form to service@es.govt.nz, or by posting a completed application form to Environment Southland, Private Bag 90116, Invercargill 9840.

What are the standards?

Clean hull standard: The hull and niche areas have no more than a slime layer and goose barnacles.

Note: Out of water cleaning is the preferred technique to achieve the clean hull standard.

Clean gear standard: All marine gear and equipment on the vessel (including any equipment to establish new moorings) is visibly clean, free of fouling, free of sediment and preferably dry.

Residual seawater standard: All on-board residual seawater has been treated or is visibly clean and free of sediment.

Records: The owner or person in charge of a vessel entering the area that the plan applies to must keep records of the actions taken to meet the clean hull, clean gear and residual seawater standards and provide those records to an authorised person on request.

Plan from the early days, as it's extremely important for the area's future.

"By being involved along the way, the industry has been able to work with the partnership group to ensure the plan is practical while still doing what it needs to do."

Malcolm says the next step is to see the successful implementation of the plan, which may require an increase in availability of resources like cleaning facilities to assist vessel owners to comply.

"This is much more than a place to work, it's more than just an area to go fishing, and we certainly feel a stewardship approach to it."

MALCOLM LAWSON

Real Journeys is another industry group that is positive about the plan's launch and sees protecting the unique ecosystems of Fiordland as a crucial step.

Director of operations Paul Norris says they have operated in the area for over 60 years and their visitors come specifically because of the area's unspoilt beauty.

"It's in our interests to ensure it remains that way and we see this plan as an additional measure to protect the unique marine environment."

He's also keen to see the addition of a national framework to support the local plan, as vessels need to be targeted before they leave the ports outside the area and travel to Fiordland.

Environment Southland biosecurity manager Richard Bowman says working with the large variety of industry and interest groups involved in Fiordland has played an essential part in getting the plan to its current stage.

"Marine pests have the potential to attach to everything from kayaks to large fishing vessels and luxury yachts, so the plan addresses all of these potential pathways."

Regular joint agency monitoring trips will serve to educate and assess compliance with the standards, however Richard is confident there will be a strong degree of self-regulation from the regular users of Fiordland.

► Right – Marine pests like sea squirt (top) and Mediterranean fanworm pose a significant risk to the pristine waters of Fiordland and the Pathway Plan aims to keep them from being carried into the area.



A man with a

It's a big job, but the man now taking the lead on Southland's most significant freshwater planning document brings a level of expertise that can only be described as reassuring.

Tips for hearing submitters

If you haven't spoken to a hearing before, here are some tips that might help calm any nerves you may have.

- Check the date, session and venue you will be attending.
- Seats will be provided for submitters and supporters, so feel free to bring along a friend or family member.
- The panel will have read everything you have provided. So you will not need to read your submission or evidence out in full. Instead, try and make two or three key points and then let the panel ask you questions.
- The hearing is public, so other people will be listening to you as you present. This includes journalists, who may approach you. It's up to you whether or not you speak to the media about your submission.
- Environment Southland staff are available at each of the hearing locations. So don't hesitate to approach us if you have queries or concerns.

We've also made a short video on what you might expect at the hearing, with the help of our deputy chairman and hearing commissioner Lloyd McCallum. Go to www.es.govt.nz/waterandland to view.

Rob van Voorthuysen is the independent chairman for the proposed Southland Water and Land Plan hearing. This plan has been many years in development, and is now at an important stage when five commissioners will consider the views of those who have submitted.

Rob has spent much of his career shaping environmental policy for water quality across the country. Rob's first job as a hearings commissioner was in 1998 and since then he has acted in over 250 hearings and has served as chairman in over 165 of these.

His experience includes being a commissioner on the Horizon's Regional Council's proposed One Plan and Environment Canterbury's Land and Water Regional Plan and Variations 1 and 2, and Plan Changes 4 and 5.

Rob specialises in regional council policy analysis and planning matters, and has appeared before the Environment Court as an expert planning witness for several councils.

He counts one of these instances as a career highlight. "Waikato Regional Council's variation 5 to their Regional Plan really was one of the earliest plans that dealt with environmental issues around farming and runoff," Rob says. "It was long, controversial and confrontational but the Court supported what the Council was seeking to achieve and the means by which they wished to achieve it."

Born in Upper Hutt, Rob spent some of his early years working on small family farms in Wairarapa and Rangitikei. He completed his bachelor's degree at University of Canterbury in agricultural engineering before working for the Ministry of Works and Development in the water and soil

directorate. He's also spent time working at the Department of Conservation, and both Waikato and Hawke's Bay Regional Councils in planning roles. Rob has been a consultant for nearly 20 years and is now based in Napier.

This will be Rob's first time in Southland. "What was interesting about the Southland plan was the huge number of submissions," he says.

When it was notified in June last year, the proposed plan received 900 submissions. Now, nearly 300 of those submitters are presenting to the hearing panel. Rob believes people need to be involved and have their say. "However, it's not a numbers game," he says. "Yes, it's important for us [the hearing panel] to get an understanding of key issues and decide how to respond to those. But it's not about how many times we hear the same issue."

"Whatever we produce, at the end of the day it needs to be clear, sensible and practical."

ROB VAN VOORTHUYSEN

He says the plan has really good bones. "There have been some really good ideas in the submissions and evidence that will help us improve it even more."

He understands that he's possibly caused some angst amongst submitters by running the hearing process a little differently than how it's been done locally, in the past. He requested that evidence

plan

be circulated to the panel prior to the hearing beginning, so the commissioners could read it before submitters started presenting. This is aimed at making the hearing process more streamlined and gives the panel time to think about sensible questions to ask submitters.

In his view, the plan needs to be three things: "Whatever we produce, at the end of the day it needs to be clear, sensible and practical.

We need to understand the problem we're trying to deal with. There's no point having plan provisions that can't be implemented on the ground."

When not working, Rob enjoys golf, walking and cycling the beautiful trails around Hawke's Bay. Despite travelling a lot for work, Rob also enjoys travelling overseas with his wife to visit family and friends in Holland and London.

► *Go to our website, www.es.govt.nz/waterandland for more information on the proposed Southland Water and Land Plan and the hearing process. You can also sign up to our e-newsletter to receive regular updates.*

► Right – Rob van Voorthuysen, chairman for the proposed Southland Water and Land Plan hearing.



Feeling the warmth this winter

More Southland residents are feeling the warmth this winter thanks to Clean Air Loans.

With loans schemes now operating in both Gore and Invercargill, those who have taken up the opportunity are reaping the benefits of improved heating.

Invercargill resident Jaime Smith is one who has found her home dramatically improved by the installation of a new compliant wood burner, made possible only by the loan scheme.

When Jaime and her husband purchased their new home in July last year, replacing the old Glowburn multifuel fire was a priority, but it would have to wait until they'd saved up enough money.

"It worked, it heated the house, but it had no controls and burnt through our wood so quickly."

When Jaime heard about the loan scheme, she barely needed to give applying a second thought.

"It would have taken us a while to save for a new fire, but the loan scheme was awesome and it's manageable for us to pay it off."

She found the process of applying for the loan, guided by Awarua Synergy, simple and she was given plenty of choice about

the type of heating best suited to her home.

"We went to the different showrooms and met with the salespeople about the fires, it was a tough choice."

Now enjoying the benefits of the fire, Jaime says it's incredible the difference it has made to her home, with the living area "super warm" and consistent heat throughout.

She's also pleased to know she has a compliant fire that meets air quality and safety requirements, as the removal of her old fire unveiled a host of hidden dangers as a result of its age and original installation.

The Clean Air Loans schemes in Invercargill and Gore are joint initiatives between Environment Southland, Invercargill City Council, Gore District Council and Awarua Synergy.

Residents within the Invercargill and Gore airsheds can apply through Awarua Synergy for a five-year loan to replace their current non-compliant heating appliance with a compliant wood burner, pellet burner or heat pump and upgrade their insulation.

The team from Awarua Synergy will meet with applicants and complete an assessment before recommending the most effective and efficient form of heating. They will then assist with completing loan application forms and organising installation of your new heating appliance.

For more information go to www.BreatheEasySouthland.co.nz or contact Awarua Synergy on 0800 WARM SOUTH (0800 927 676).



▲ Awarua Synergy sales assessor Dave Tyagi looks at an old pot belly fire as part of a home assessment.



Nominations are now open!

SOUTHLAND COMMUNITY **ENVIRONMENT AWARDS**

Is someone you know doing great things for Southland's environment?

The Southland Community Environment Awards celebrate people who make a special and significant contribution that benefits Southland's environment.

Share your own inspiring project or nominate someone else whose achievements are helping to keep our environment in great shape.

There's prizes to be won and a category for everyone—schools, farmers, community groups, businesses and individuals.

Visit www.es.govt.nz for more information about the awards and last year's winners. You can also enter online or download the nomination form.

Nominations close on Friday 18 August



▲ Environmental technical officer Grace Smith brushes algae (periphyton) off a rock taken from the Oreti River. Samples are routinely sent away and analysed for toxicity.

A glimpse into the life of an environmental technical officer

Grace Smith was so keen to work at Environment Southland she applied for summer student positions two years in a row. A permanent role followed as an environmental technical officer (ETO), and a year-and-a-half on, it is fair to say she knows a thing or two about Southland's natural resources.

It's Grace's first job straight out of university, and she reckons she couldn't have found a better one.

"I really enjoyed science and geography at high school, so I knew I wanted to do environmental work. I went on to get a Bachelor of Science in Geology and Geography at Otago University and had some summer jobs at various places."



▲ Grace Smith checks air quality monitoring data and changes filters at the Glengarry monitoring station in Invercargill.

At the heart of it, Grace's role involves the collection of a range of monitoring data on so-called 'runs' that consist of many different jobs. In a typical week, she finds herself wading through a river to look at algae one day, taking water samples in high river flows the next, and then driving off to calibrate monitoring equipment in a far-flung corner of Southland.

The changing nature of the job is one of the highlights for Grace.

"We get a weekly roster, but you have to be dynamic and willing to take a phone call in the field and do something else at a moment's notice. I believe everyone quite likes structure in their job, but I find it's exciting for things to change."

The data Grace collects is the basis for a great deal of the council's work. A lot is used for determining river levels downstream as floodwater travels down the catchment. The information provides a valuable resource for both the council and the wider community, informing community conversations and feeding into policy

direction. It adds to the national picture of Southland and some data, like toxic algae cover, E.coli levels and air quality, is used to issue health warnings to Southlanders.

It's no secret that Southland's climate can be inhospitable at times, and while most of us are trying to stay dry when the rivers swell during a downpour, some of the 11 ETOs in the team need to be out, managing equipment and gathering data. But Grace is undeterred.

"I love being outdoors. I usually spend three to four days out in the field and get a day in the office for meetings, doing data entry and prepping instruments."

Sometimes, Grace gets to take up the paddle.

"When a river is too high to wade, we'll have the gauging instrument mounted inside a kayak and paddle it across to measure the water flow. It's pretty cool to kayak for work."

When she's not driving, wading or paddling around Southland, Grace can be found

sailing, skiing or surfing. Like many of her colleagues, she enjoys the many outdoor opportunities available in Southland, and hopes that her work will help to enable future generations to pursue a similar lifestyle.

The former Southland Girls' High School student has some tips for anyone looking to work in an environmental role.

"My advice would definitely be to look for summer jobs while you're still studying. A lot of what I'm doing now isn't necessarily what I studied at university, but it's in that general science field, which is the case for a lot of people here [at Environment Southland]."

When asked about her future plans, Grace says she doesn't see herself moving on anytime soon.

"I think because of the nature of the job – many jobs within the job – there's still so much to learn. Becoming a totally awesome ETO would be a good first step."



▲ Robin (Photo Ros Cole)

Joint effort brings back the birdsong to Bluff Hill

The sweet sound of rare birdsong has been returned to Bluff Hill, thanks to the joint efforts of the Bluff Hill Motupōhue Environment Trust and Invercargill City Council.

Both the trust and the city council are undertaking significant projects on the hill, supported by Environment Southland and the Department of Conservation. These efforts to regenerate the native bush and drastically reduce pest numbers are finally showing dividends, with the recent return of 41 South Island robins (kakaruai).

More than a century has passed since the robins were last seen on Bluff Hill, so it's not surprising trust former chairperson Estelle Leask feels a real sense of achievement, but she knows there is plenty more work to do.

The return of the robins is the culmination of many years of hard work, which began in 2008 when some relative newcomers to the Bluff community pointed out that Bluff Hill was unnaturally quiet.

"The sound of silence on the hill was one most long-term residents had become accustomed to, but we will be forever thankful to those newcomers who recognised there was a problem and put out the call to bring back the birdsong."

In the trust's early days pests were identified as the major issue impacting on birdlife and native vegetation – possums and rats were breeding prolifically and stoats had been seen playing on the track.

"Bluff Hill has one of the last mainland colonies of titi and when a resident found an adult bird half eaten by stoats on the walkway, we knew things had reached a critical point," Estelle says.

Armed with plenty of advice and maps from Environment Southland, the trust volunteers set about establishing an extensive network of rat, possum and mustelid trap stations – a labour intensive task that takes hundreds of hours to maintain.

While the trust worked on getting rid of pests, the Invercargill City Council undertook a substantial project to restore the hill's natural vegetation.

ICC parks and reserves manager Robin Pagan says the bush area is an important one for the whole of Southland and the work to increase the native species complements and supports the work being carried out by the trust.

"While we are investing a lot of time and money in addressing problems like wilding pines and planting natives, the more birds, the quicker the native vegetation will increase.



▲ SIT students take part in a volunteer workday as part of the restoration project.



▲ Ros Cole, DOC senior ranger – biodiversity gives children an opportunity for a close-up look at a robin before it is released on Bluff Hill.

"Already you can see the benefits of the work the trust is doing. In areas where it has carried out substantial pest control work, the bird numbers have increased and they are spreading the seeds of the native plants."

Robin says managing the gorse on the hill is less of a focus for the council, despite it being highly visible, as the growth of natives will eventually force the gorse out.

"Addressing the wilding pines is a much bigger issue, as unchecked these will continue to grow. We are currently spending around \$10,000 on weed control."

Going forward, the Bluff Hill Motupohue Environment Trust and Invercargill City Council are both keen to see the hill become home to even more species, but in the meantime Estelle is keeping her eyes peeled for her new resident robins.

"It's quite unusual to relocate a species to an area like this, so close to a residential space and a port, and these are a particularly friendly bird. We've already had reports of them in people's backyards."

Come spring, Estelle will be heading into the bush hoping to find juveniles and that's when the success of the project will really be told.



Do we use economics in the right way?

So often economics is perceived narrowly and separate to the environment and our lives, but is it really?

When local or central government introduce new policy for an environmental issue, sometimes economic work is commissioned and a report is produced, which talks about economic growth and other things like jobs.

So often the economy is treated as if it is somehow separate from the environment, and that what happens 'out there' doesn't really need to be factored into the equation.

Environment Southland economist Emma Moran says that sort of report doesn't usually go far in building knowledge and understanding of how the economy works – the *mechanics* of it all; and usually ends up on a shelf.

But what if in the real world everything is connected? What if it is all one big, complex, messy system? What if what we do now affects the world our children will live in?

What if we can use economics to help?

Environment Southland is coordinating The Southland Economic Project, which is reinventing the way 'economics' is done for water quality. Emma, as project manager,

says the project is working with a number of organisations that have an interest in Southland and is using their resources and expertise to do something worthwhile.

"This project has just produced the Agriculture and Forestry Report, which describes research for 95 farms across Southland. In doing so it puts lots of pieces of the jigsaw puzzle on the table. It shows how our agricultural industries are woven together, it shows how closely tied Southland's economy is to the environment, and how our local communities are a real rural and urban mix," Emma says.

There's a wealth of information in the report and Emma notes two key findings.

First, within an industry, there was no clear relationship between a farm's existing nutrient losses (nitrogen and phosphorus) to waterbodies and its profitability. For example, farms with lower nutrient losses were just as likely to be profitable as those with higher nutrient losses.

Second, there was a clear relationship between using mitigations and their impact on a farm's profitability. The reason being that as a farm "accounts" for its

nutrient losses it generally changes in the way the farm operates

This report won't be gathering dust. It's already being used by several organisations and it will be followed by similar research for Southland towns. Both reports will be used to build a model of Southland's economy, which will give us valuable information, useful for answering the community's questions during the limit setting process (abstractions from, and discharges to, our waterways).

"It shows how our agricultural industries are woven together, it shows how closely tied Southland's economy is to the environment, and how our local communities are a real rural and urban mix.

EMMA MORAN



Spending time on economics

Lindsay Fung, Shiny @rs# and opinionated geezer



other primary industry organisations, the Department of Conservation and Environment Southland.

In our view this is the first time that a regional council-led initiative has actively and positively sought input from the primary sector to provide such a thorough analysis and understanding of farming and environmental management.

As a smaller but significant industry, the deer industry greatly appreciates the opportunity to inform others of the nature of deer farming in Southland, its environmental challenges and management options, and the importance of Southland to the industry.

This report should be required reading for environmental planners across the country – the key messages are just as relevant to other regions. Doing so could help avoid cumbersome and blunt approaches to reducing or mitigating environmental impacts from agriculture and moving more towards outcomes that are truly “win-win-win” through improved water quality, profitable farming and thriving communities.

Lindsay Fung is the environmental policy manager for Deer Industry New Zealand, and the deer industry representative for The Southland Economic Project.

Southland Economic Project

The Southland Economic Project is a joint venture between DairyNZ, Beef + Lamb New Zealand Ltd, Department of Conservation, Ministry for Primary Industries, Ministry for the Environment, Southland Chamber of Commerce, Te Ao Marama and Environment Southland.

The project is also supported by Deer Industry New Zealand and New Zealand Deer Farmers Association (Southland Branch), Invercargill City Council, Southland District Council, Gore District Council, Foundation for Arable Research, Horticulture New Zealand, and forestry companies: Southwood and Rayonier.

Download *The Southland Economic Project: Agriculture and Forestry* report at [waterandland.es.govt.nz/setting-limits/research/southland-economic-project](https://www.waterandland.es.govt.nz/setting-limits/research/southland-economic-project).

By now the hearings for the proposed Southland Water and Land Plan are well underway and the various communities and interest groups will be gearing up for the catchment ‘limit-setting’ process in the region.

Tucked away between these two megalithic bureaucratic activities is an equally daunting (at 346 pages) but informative report put out by Environment Southland: *The Southland Economic Project: Agriculture and Forestry* technical report. For anyone wanting to gain an understanding of how agriculture is fully interlinked with the Southland environment, economy and social fabric, this report is well worth spending some time on.

For those of you who are time poor, the take home message can be summed up by Emma Moran, the project manager, who observed that “the developed part of Southland is, in effect, one big farm.” However I would strongly encourage people to dive into the report to fully appreciate the complexity and connectedness of land use and what can be meaningfully and effectively done on-farm to mitigate the environmental impacts from agriculture.

Deer Industry New Zealand and the Southland Branch of the New Zealand Deer Farmers Association participated in the preparation of the report alongside

Wetlands, more than just a swampy paddock



▲ Constructed wetlands have significant benefits to offer and can be a community focal point. A trial constructed wetland at Waituna has involved work by many organisations and members of the community.

Before Southland was a postcard mosaic of fences, paddocks and endless horizons, it was basically a big wetland, and a study by Environment Southland shows what's left of our boggy heritage is under threat.

The Wetland Inventory Project catalogues unmapped wetlands on rural private property using aerial photography from 2007, as a baseline of extent. This can be compared to later aerial photography to monitor changes.

The project also provides an exciting opportunity to educate the community about the diverse and important role of wetlands. Wetlands provide an essential ecosystem and act as “kidneys” – filtering sediment and cleansing water as it moves through the landscape. They create a more resilient environment, providing moisture reserves in times of drought and mitigating against floods, as well as supporting native fauna and flora.

Enjoyed by fishermen, duckshooters and often focal points for community activities,

the importance of wetlands has often been underestimated.

Under the Resource Management Act 1991, protecting wetlands is a matter of national importance. In low lying areas like Southland however, they've been severely reduced over time to make way for pasture.

“We had a lot historically, now we have very little left,” says Environment Southland freshwater scientist James Dare “Between 2007 and 2014, we lost about 1165 hectares of wetlands on private land.”

Despite the loss of natural wetlands, work is taking place to find other ways to make the most of the gains they can offer. While it's not your bog-standard strategy, James is working with NIWA, industry and farmers to build constructed wetlands to highlight

how economic and environmental benefits can co-exist.

“They're still in the developmental stage but engineered wetlands are designed to mitigate nutrient loss and we're working to eventually have a tool to address nitrogen issues for farmers.”

Meanwhile James is hopeful people will begin to have an increased understanding of the benefits wetlands can offer them.

“People are great at looking after stands of native bush, but should remember wetlands are also hotspots for biodiversity. It's important to get the message out you can value them for keeping a bit of New Zealand in the backyard and also for the benefits they can have for nutrient mitigation, particularly nitrogen run-off.”

Seriously looking into aquaculture

Aquaculture, particularly salmon farming, is a key focus of the SoRDS Action Plan, which aims to diversify Southland's economy, grow the population and strengthen local business.

Now, a reference group has been formed to help ensure all stakeholders are involved in the process of exploring the environmental, cultural and commercial feasibility of salmon farming in Stewart Island. The Southland Aquaculture Reference Group (SARG) met in March and is expected to

meet again in July once science research reports are available from an ecological survey currently underway at the north arm of Port Pegasus.

The group includes representation from a wide range of stakeholders, including government agencies, Environment Southland, Southland District Council, the aquaculture sector, Ngāi Tahu, Stewart Island community, Southland Conservation Board, Fiordland Marine Guardians and the Environmental Defence Society.

SARG's independent facilitator Graeme Todd says "It is important that the process involves local community, local government, central government, iwi, industry and interested environmental groups.

"Our aim is to gather all the facts to inform this process. The detailed scientific data being gathered in the current survey will further facilitate and inform community engagement. We are committed to gaining

a clear understanding of all issues to find an acceptable pathway for a social license from the community and interest groups for the development of new water space opportunities for sustainable marine farming in Southland.

"SARG will consider all environmental outcomes and landscape, amenity, social and cultural values, regulatory controls and treaty obligations. Output from SARG will take the form of a report identifying where consensus has been reached between participants and issues where agreement has not been reached, along with recommendations."

Scientists from the Nelson-based Cawthron Institute are carrying out fieldwork, including detailed seabed surveys in an effort to understand whether the area is suitable for aquaculture. The areas identified for survey are all outside of protected marine reserves.



▲ Aquaculture is well developed in Norway, where farms sit relatively unobtrusively in the fiords.

SoRDS

The Southland Regional Development Strategy (SoRDS) launched an action plan in November 2016.

SoRDS is a joint initiative between councils, iwi, business and community organisations. Its aim is to increase Southland's population to 105,000 by 2025 (about 10,000 more people); and 110,000 by 2030.



Southland Regional
Development Strategy
TE IWI ME ORANGA RAUEMI

Updates



Farm drains mapped online

An interactive map on our website now provides an indication of when farm drains owned by Environment Southland are next due for maintenance.

You can access the map by going to www.es.govt.nz and clicking on 'Maps and Data'. From there, select 'Other maps', then 'Infrastructure'.

Ensure the 'ES Drainage Works' layer is enabled, then click on any of the drains highlighted in green to bring up more information about it.

Our online mapping service, Beacon, has many other maps available, from soil moisture to water levels and natural hazards, so check it out.



Annual Plan 2017/18

The Annual Plan 2017/18 was adopted by the council in May and became operational at the end of June.

It outlines our budgets and work programmes for the coming year. As there are no significant changes to what we said we would do in our Long-term Plan 2015-2025 (LTP), the council did not consult on it.

The LTP had forecast an overall rate increase of 6.64% for this year, but councillors made prudent choices, adjusting work programmes and utilising income from financial investments to reduce the overall rate increase to 5.90%.

The *Annual Plan 2017/18* and the *Annual Plan 2017/18 Overview* are available online at www.es.govt.nz and from our office.



Coastal Plan Review

The first step in reviewing the Regional Coastal Plan for Southland is underway with a project to set the strategic direction. The Coastal Plan requires review under the Resource Management Act, as it is now 10 years old. In addition, anticipated new directions from the Government may impact on its content.

Discussions are already underway with many interested parties, including other councils, Department of Conservation, Fiordland Marine Guardians and Te Ao Marama. Representatives from the Otago Regional Council are also involved, as some work may be done in conjunction with them given they are also reviewing their Coastal Plan.

There will be significant opportunity for public input, both in determining the strategic direction and through the formal statutory consultation process once the plan is redrafted.

Time to think about...

AUGUST 2017

NODDING THISTLE/RAGWORT – By now you should have completed an early winter spray for these weeds. If you missed this opportunity, an early spring application is recommended. During mid-late winter, cold temperatures and frosts restrict plant growth, meaning weed control may be less effective.

OUTDOOR BURNING – A reminder that outdoor burning remains prohibited in

the Invercargill and Gore airsheds until 31 August. Go to www.BreatheEasySouthland.co.nz for airshed boundaries.

FARM WASTE – Make sure you have a plan to dispose of your farm waste, especially baleage wrap and used chemical containers. Baleage wrap cannot be burnt, but there are several options for disposal. Check out our website for more information.

SEPTEMBER 2017

VELVETLEAF – Make sure you continue to check paddocks for any sign of velvetleaf. Use your farm management plan to help choose your pasture and crop options for next year if you had velvetleaf, or received

fodder beet seed that may have been contaminated with velvetleaf.

RABBITS – Winter is the most effective time for rabbit control before they start breeding again in spring.

OCTOBER 2017

ENVIRONMENTAL ENHANCEMENT FUND – Get your application in now. This fund can assist with projects to protect and enhance indigenous biodiversity on private and community-owned land in Southland. Visit www.es.govt.nz for more information on how to apply.

MUSTELIDS, RATS AND FERAL CATS – With the start of bird breeding season, it's essential to get good control of mustelids, feral cats and rats before

they start preying on nests and vulnerable young. There are a variety of traps out there so give our biosecurity team a call for advice.

DARWIN'S BARBERRY/COTONEASTER – If you're heading up to your holiday home in the Manapouri/Te Anau area, it's worth keeping your eyes peeled for any signs of these nasty weeds. If you find any give us a call for advice on how to remove it.

NOVEMBER 2017

FIREWOOD – Now's the time to be sorting your firewood supplies for next winter. Visit www.BreatheEasySouthland.co.nz for a list of Good Wood approved suppliers.

For detailed information on any of these topics visit our website.

Down on the farm



By **GARY MORGAN** Environment Southland principal land sustainability officer

It's not long now until another winter grazing season is over. As soon as soil conditions allow, farmers will be keen to start cultivating their bare winter grazed paddocks to prepare them for re-sowing with forage crop or returned to pasture.

There are some recognised good management practices around this cultivation period that farmers and contractors might like to consider:

- is there an opportunity to sow an early sequence/catch crop such as oats to 'mop up' nutrients left in the soil after winter grazing?
- subsoiling/deep cultivation (soil aeration) where there has been significant pugging damage.
- only cultivate when soil moisture conditions are suitable. Utilise minimum tillage methods.
- don't over cultivate. A fine tilth is much more prone to rill erosion. Leaving the soil surface rough promotes infiltration of rainwater thus reducing surface runoff and erosion.
- cultivate on the contour where possible.
- leave an uncultivated buffer around waterways. Remember, the steeper the slope the wider the buffer.

Contact a land sustainability officer if you would like more information.

Out in the field



▲ Environmental technical officer Alice Woodward checks turbidity and conductivity probes in the Oreti River. The probes operate continuously and provide valuable water quality information throughout the year.



▲ The hearing for the proposed Southland Water and Land Plan began in May and will continue through till November. The panel of commissioners includes (from left) Maurice Rodway, Edward Ellison, Lloyd McCallum, Eric Roy and Rob van Voorthuysen.



▲ Biosecurity officer Tom Harding checks rodent tracking tunnels with Amy Neal-Duffill and Chris Rance from the Southland Community Nursery at Bushy Point Reserve. The tunnels use ink pads to record the footprints of small rodents.



▲ Soils and water scientist Lisa Pearson measures soil infiltration rates in a Woodlands soil pit. This helps provide information on how different soils are able to absorb rainfall or irrigation.