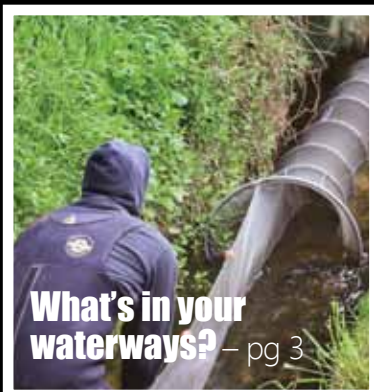




Enviro South

FEBRUARY 2015



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**environment
SOUTHLAND**
Te Taiao Tonga

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Envirosouth

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

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Cover

Katrina Thomas and her son Lachlan at their Wreys Bush farm (story – page 7).
(Photo – Southern Rural Life)

It's all about water and land

For me, and I hope for you too, the New Year brings a renewed focus on the things that matter most. Right now at Environment Southland that means water and land.

As a regional council Environment Southland has a responsibility to manage the region's natural resources – air, water, land, and coast and our major project, *Water and Land 2020 & Beyond* is our first priority.

This project is aimed at maintaining and improving Southland's water quality, something the Government's National Policy Statement for Freshwater Management requires all regional councils around the country to do. This will be done by working with the community to set catchment limits for water quality and quantity.

Over 150 years of land development has naturally had an impact on water quality. Scientific monitoring and investigations confirm that Southland has both water quality and quantity issues. These relate mainly to the levels of nutrients (particularly nitrogen and phosphorus) as well as sediment and bacteria in our waterways, and it's these contaminants that are having an adverse effect on water quality.

The Water and Land 2020 project includes a range of measures aimed at halting the decline of Southland's water quality, including promoting good on-farm management practices, and developing a comprehensive water and land plan that will set policies and rules.

The Water and Land 2020 project will affect all Southlanders in some way; we will all have to change our behaviours to some extent.

Rural communities will be affected by the Water and Land 2020 project because one of the issues it addresses is land intensification. This means it will fundamentally affect the way people in the rural sector live and work.

Eventually, catchment limits will also be set for water quality (discharges) and quantity (extractions), but not until we know more.

To ensure limit setting is based on robust science and evidence, we're putting in considerable resources to better understand Southland's geology, geography, water movement through space and time and the impacts of human activities. As part of this we'll be assessing the impacts that our decisions could have on our economy, culture and way of life.

We've started going out to Southland communities to explain what the Water and Land 2020 project involves, to hear your views and to answer what questions we can at this point.

There's no denying this project will be challenging. Some of the changes required to improve Southland's water quality could potentially have a significant impact on people's rural businesses.

This edition of *Envirosouth* has a strong focus on the Water and Land 2020 project. It's important you know where we are up to, who's involved and what's happening next. If you haven't heard about it, now is the time to take notice.

At this time we're also developing Environment Southland's Long-term Plan, which will set the Council's direction and budget for the next 10 years. The consultation on this will occur in April, highlighting the significant issues and as always seeking your feedback and input.

It's shaping up to be a busy and challenging year with important projects on the go and important decisions to make. If ever there was a year to start taking notice and to get involved, 2015 is it.



Ali Timms – Chairman,
Environment Southland



Creating havens for freshwater fish

Increasing the numbers and health of fish in farm waterways is the goal of a two year study trialling a new approach to drainage maintenance.

Freshwater and marine scientist James Dare pulls up a fyke net wriggling with life from a farm waterway in the Waihopai catchment. A splendid longfin eel, a brown trout, a juvenile crayfish and a couple of freshwater bullies are in the catch. He measures each of them, and notes down the weight and fat content of the larger fish before releasing them back into the stream again.

“Farm streams aren’t just drains at the bottom of a paddock, but in fact they are complex ecosystems, providing homes for numerous fish and other animals to live in,” explains James.

“It’s very interesting – last time they pulled out an eel the size of my leg!”

With the support of landowners in the Waihopai catchment, he is coordinating a study exploring a method called staggered drainage maintenance, which removes excess weeds and sediment from farm waterways. The novelty about the method is that only sections of each waterway are cleared, and patches of weed are left standing for fish to shelter in. The intention

is that farm drainage is maintained, while stream inhabitants are protected.

The study is a Living Streams investigation, and has struck a chord with locals who are happy to help out in return for getting insight into what lives in their waterways.

Marco dela Concepcion, a local dairy farmer, is one of the many who are fascinated with the abundance of life in his waterways. “It’s very interesting – last time they pulled out an eel the size of my leg!” he says.

The final results of the study will be available mid-year, but James says there is something every landowner can do now to improve the

health of their waterways.

“The most beneficial thing farmers can do is ensure these waterways are securely fenced to exclude stock. We then recommend planting at least the north side of the stream with riparian plants. This helps shade the water which keeps temperatures cooler and reduces weed growth.”

Above – Environment Southland freshwater and marine scientist, James Dare, setting a fyke net to trap fish overnight.

If you’re thinking about planting along your waterways, give Environment Southland a call. We can provide free advice on planting or fencing your waterways.

The ins and outs of farm waterways

Farm waterways are extremely important to farming in Southland as they provide drainage for Southland’s extensive underground tile drain network. Drainage from these tile drains enables moisture levels in the soil to be managed for optimum pasture growth and soil health.

Drainage maintenance can either be done with heavy machinery or by certified contractors using approved chemicals. Environment Southland maintains 1,364 km of farm waterways across Southland – about 10% of the drainage network.



Wearing the gumboots at home and at work

She might have come from Auckland originally, but Fiona Young has well and truly worn in her gumboots in the deep south.

After 14 years of farming in Western Southland, the Environment Southland senior policy planner could 'almost' be considered a Southlander, though her roots are in suburban Auckland.

Growing up in Auckland, Fiona was by no means a townie, with much of her childhood spent with extended family on their farm in Northland, and it was clearly there where she found herself most at home.

"Even though I grew up in Auckland, I've always been connected to the land, I've always been passionate about outdoor activities, walking, biking and generally being out there."

While completing her Masters in geography at University of Canterbury, Fiona had a "wow" moment when she realised that study of the environment was what really pushed her buttons and after focusing initially on the scientific aspect of things, she found her niche in planning.

"My focus has always been the interface between people and the environment, on the most sustainable use of our natural resources and working with the community to manage those resources."

To say Fiona is passionate about her work is probably an understatement, and her natural affiliation with the farming community is

very much the result of her combination of knowledge and understanding of the challenges facing rural communities.

With her husband farming full time and three young children to raise, Fiona knows herself how valuable time is, and is very aware of this when she needs to engage with the rural community.

"You need to remember that our community is busy, that farming life in particular is very dependent on weather and, although farmers are all very aware of the importance of the issues that need to be addressed, you also have to fit in around the demands of rural life."

Balfour farmer David Stevens believes Fiona's involvement in the rural sector encompassing her home and work life, is a big part of her success in her role. With a number of years involvement with Environment Southland, David says he finds all of the staff, and particularly Fiona, very approachable. "Fiona has a good understanding and can see the practical side and the effect things can have on the rural community."

With the Resource Management Act providing the umbrella legislation for all of her work, Fiona's day to day work can mean a combination of community meetings and gathering the information needed to develop the policies which will ensure a sustainable future for Southland.

Her current focus is on the *Water and Land 2020 & Beyond* project, which aims to maintain and improve water quality and quantity, while providing for our economic, social and cultural wellbeing. Eventually the project will lead to setting catchment limits, but there will be many opportunities to be involved before then.

While this challenge is just one of the many things Fiona is working on, she considers it a great opportunity to increase community participation and involvement in developing the plans which will shape the future, as it will affect everybody. "This project is a new way of doing things and the community needs to be ready to have these conversations."

David says at the end of the day, there is nothing better than making people feel they have been part of the process and the outcome, and having an established connection makes a huge difference. "Farmers are terrible in that they don't read things, so personally I think Environment Southland has done a very good job getting people involved", he says.

Fiona's advice to the community is to seek out the information that is available, talk to their neighbours and peers, so they are aware and can be involved in the coming discussions. "There is a definite understanding that change is out there, but it is over a long time frame and it won't happen tomorrow."

Most importantly, Fiona says it is essential to remember that the environment is vitally important to the rural community. "They live in it, play in it, depend on it and rely on it for their futures, so they are very much aware of the need to manage it carefully."

(Fiona will now have even more opportunity to get out in her gumboots, having just accepted a new role as a land sustainability officer with Environment Southland.)

Right – Fiona's home and work life are both focussed around being out on the farm.

Below – Fiona Young talks with Environment Southland principal land sustainability officer Gary Morgan (centre) and Lumsden farmer Willie Menlove.





Doing the groundwork

The lysimeter is installed at the site that best represents the soils of the property.

As Southlanders we get our fair share of rain – but have you ever asked yourself where it all ends up?

Our scientists are now trying to determine just how much of this rain makes it underground, knowledge that will benefit both farmers and the environment.

Once rain hits the ground, it seeps through the soil, eventually reaching our underground aquifers – soaked layers of rocks, sand and gravels. Although there are various ways to measure how much of the rain that falls on the surface of the land actually makes its way into an underground aquifer, there is no substitute for physical measurements.

Did you know...?

Southland has over 170 different soil types, each with different water holding capabilities.

To get a better idea of how rain contributes to Southland's rivers and lakes, and how we can use that water more efficiently, Environment Southland and NIWA have embarked on a collaborative project installing soil drainage lysimeters in irrigated areas of Southland.

A soil drainage lysimeter measures how much water goes straight through to the underground aquifer, how much stays in the soil, and how much is used up by plants in the process. Environment Southland's environmental technical officer Michael Killick describes it like this:

"Essentially, a lysimeter is a barrel which measures an isolated section of soil, and is plumbed at the bottom. It enables us to measure what goes on at the surface and what comes out at the bottom, meaning we can draw fact-based conclusions on what's happening in the soil."

Michael says the technology brings with it the prospect of better water management, as well as long term benefits for farmers and the environment.

"It has the potential to bring major economic benefits to farmers who are irrigating, through savings on water and electricity," he says. There are examples in Canterbury where water use efficiency has improved almost to the point where, for the same water allocation, another farm can be irrigated, but it is yet to be established whether this can be achieved in Southland.

The environment benefits from precision irrigation as there is a reduced risk of overwatering, which translates to less nutrients leaching into groundwater and ending up in waterways and estuaries. It also means less water is taken from rivers, which is especially important during dry spells.

Knowledge gained from lysimeters in Southland will contribute to data gathered by the national lysimeter network. It will also complement Environment Southland's network of soil moisture monitoring sites, which are updated twice daily and available on the Environment Southland website, www.es.govt.nz.



(Photo – Southern Rural Life)

Balancing act for dairy women

Balancing family life with the day-to-day demands of co-owning a large dairy farm is one of the many challenges facing Katrina Thomas.

Born and bred in Southland, Katrina grew up on a sheep farm not too far from their current Wreys Bush property. Before farming and family pulled her back, she spent 21 years in the fast-paced and exotic world of tourism, promoting New Zealand as a visitor destination.

She vividly remembers her father telling her she had to 'get into this thing called tourism – it'll be the big foreign exchange earner for the country, it'll be big', and 'don't marry a sheep farmer'. She followed his advice on the first and then ignored the warning on the second.

With husband James and son Lachlan, Katrina's life is certainly different now. Converting to dairy farming only four years ago, Katrina was amazed at just how steep the learning curve has been with the change from sheep to cows.

"When you switch, you don't know anything about cows. It's a whole different business," she says. "It was a huge transition. It's all about grass management and the cow's day to day wellbeing, and them producing fabulous milk solids."

While physically converting the farm was a big job, Katrina says that coming to grips with the business side of a dairy farm and its day to day operations was a real challenge.

"The technology and the lingo and jargon was just incredible. The blokes just expected you to know [what it all means], and unless you have been in the industry you just wouldn't know."

Deciding on the right effluent system for their conversion was case and point. There was a lot of talk around a table of different systems, but it wasn't until Katrina suggested they go and look at some of them that she could really visualise what it all meant. They called in local expertise to help, including Environment Southland's former dairy advisor Russell Winter.

"Russell stood there and pointed out all the pros and cons of the systems we looked at. It was great," Katrina says.

Katrina and James share a lot of the decision-making on the farm, but Katrina says her primary role is calving.

"My hands-on commitment is that five months of calving, from July to December. I had to learn quickly," she says.

Building strong relationships with everyone involved in the business, from the workers to the accountant and bank manager to the fertiliser and seed reps is extremely important to a farm's success. Connecting with the local community and with other groups that can provide support is also important.

Katrina has been involved with the Dairy Women's Network since they converted to dairy farming. The Network's purpose is to support and inspire New Zealand women to succeed in the business of dairying. Part of this is about education which Katrina has found invaluable.

Environment Southland land sustainability officer Anastazia Raymond attended one of the Southland Dairy Modules to talk planting, and 'made it simple'.

"It's interesting, because I think it does fall back to the woman sometimes to encourage the planting."

Having completed a propagation course early on with the idea to establish more planted areas on their property, as well as an extensive vege garden, Katrina says you can do things that are almost free and you don't have to do everything in one go.

For now Katrina is putting her event management skills to good use as the Southland regional group convenor of the Dairy Women's Network and is heavily involved in organising their national conference, in Invercargill in March.

Visit Environment Southland at the Dairy Women's Network conference. Registrations for the conference are still being accepted.

Go to www.dwn.co.nz to register or view the conference programme.

When: 18 – 19 March 2015

Where: ILT Stadium Southland, Invercargill

Theme: 'Entering Tomorrow's World'

The GREAT WALL of Southland

Imagine this: water streaming down from the mountains, across the plains through a mosaic of shallow underground aquifers broken up by rocky outcrops, past 'the great wall of Southland', developing like wine into different varieties, surfacing in rivers and pooling in estuaries.

Southland's climate and physical geography is much more distinct and diverse than most people realise.

"Southland has the most complex geology in New Zealand," says Environment Southland principal scientist Dr Clint Rissmann. "It's not like Canterbury where you have mountains to the sea flow paths, we don't have that."

Some of Southland's distinguishing characteristics include four main river catchments, underground aquifers, a wide range of rock and soil types, extensive lignite measures, a variety of peat swamps, short lag times for water percolating through soils to underground aquifers, and rivers that discharge into estuaries rather than straight out to sea.

Clint says Southland can be broken up into northern and southern Southland because there is a massive difference between them in terms of the physical geography and climate. "The geology is different, the drainage characteristics are different, the climate's different, which means the water is different."

On a map of the region Clint indicates where this transition occurs, "the great wall of Southland I call it".

Climatically most people think Southland is very wet, but there are inland areas that are very dry, where there is increasing demand for irrigation. This difference also has an impact on when the underground aquifers are replenished by rainfall. There are often

times when the water in Southland's rivers is purely groundwater (from the underground aquifers).

Aquifers are stores of underground water that fill up the gaps between rocks, gravel, silt and clay. In Southland they are broken up by various geological rock formations with unique physical and chemical properties. It is this geological variety and the fragmentation of the aquifers that contribute to different water types – Southland has 11 main types.

"It's just like wine," says Clint. "You can have a variety of different types of wine. To get those different varieties you have to go through different processes. Water is no different, it takes on the characteristics of where it came from and how it evolved."

Over the past 150 years Southland's land has been extensively cleared and drained. "The old saying that Southland is built on tiles is very true," says Clint.

Tile drains fast-track water off the land, improving its productivity, but this can also provide shortcuts for contaminants to enter waterways. It means there is very little time for contaminants to be filtered out through the land or vegetation. Southland's shallow aquifers also help to expedite the movement.

The result of this quick moving water is that in Southland, unlike other regions, we have very short lag times – from when the rainwater falls on the land to when it percolates through to our aquifers. This presents opportunities and challenges.

"Our very short lag times are a feature of our geology that make us unique. While we've seen a rapid decline in water quality [in Southland], on the flip side we may actually be able to see an improvement in our water quality within a matter of years as opposed to 100–150 years, which other regions have to deal with," says Clint.



Environment Southland principal scientist Dr Clint Rissmann points to the 'great wall' of Southland.



(Photo – Les Ladbrook)

Working towards setting *catchment limits for water*

Setting limits for water quality and quantity is one of the requirements for all regional councils under the Government's National Policy Statement for Freshwater Management.

To achieve this, a huge amount of important scientific, economic, community and cultural work and research is underway to inform decision-making for the limit setting process. This work will help us all to better understand Southland's river catchments, the communities' objectives and the potential impacts of limit setting.

Environment Southland's science programme and Southland Economic Project are key components in the *Water and Land 2020 & Beyond* project, which will meet our national responsibilities and also address the causes of declining water quality in Southland.

As well as improving our understanding of our river catchments, one of the key outcomes of the science programme will be the development of a sophisticated computer model. This will make it possible for scientists to develop 'what if' scenarios that simulate the impacts of land uses on receiving environments such as lakes, rivers and estuaries.

This computer science modelling will be linked to tools being developed within the Southland Economic Project to explore the economic impacts of these scenarios. By bringing together all of this technical knowledge we will be in a really good

position to provide the information needed for conversations with local communities.

We've kicked off 2015 with a number of public meetings, talking about the work being done to prepare for setting catchment limits for water. These will continue throughout the year so check our website for upcoming dates and venues near you.

Stay up to date with the project by subscribing to our bi-monthly e-newsletter at www.es.govt.nz.

Our WATER AND LAND 2020 & BEYOND Project



2013

2014

2015

2016

2017

2018

2019

2020

2021

Continue to promote good on-farm management practices

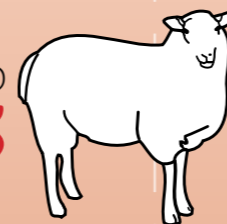
Southland Economic Project

Science Programme

Water and Land Plan

Community & Tangata Whenua Project

SOUTHLAND
1985
9MILLION



SOUTHLAND
2013
4.4MILLION

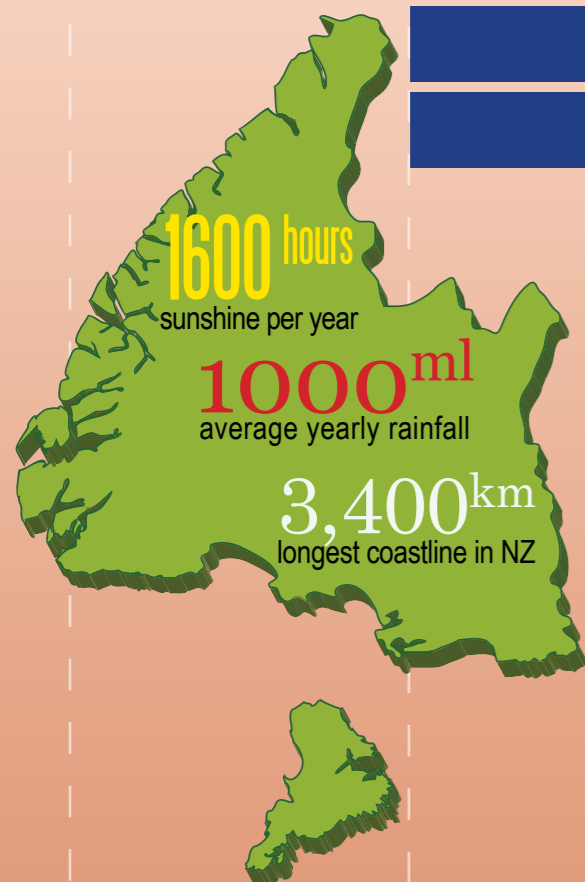
SOUTHLAND
1985
<100,000



SOUTHLAND
2013
550,000

CATCHMENT LIMIT SETTING FOR WATER

Fiordland	Aparima
Stewart Island	Mataura
	Oreti
	Waiau





Building the connections

Pourakino Valley dairy farmer David Diprose is determined to do the right thing for his farm, his neighbours, the Riverton community and the environment.

David is particularly passionate about his farm and the environment and the link between the two. His farming practices have been recognised at the Southland Environment Awards, having been highly commended twice for different initiatives he's put in place on his farm.

It's no surprise then that David has become the driving force behind the Pourakino Catchment Group, a group of like-minded farmers getting together to learn, share knowledge, support one another and do their bit for the environment.

In December 2013, DairyNZ identified David as someone who was starting to make a mark on his own farm, so sent him to the Dairy Leaders' Group meeting in Wellington.

"It kind of opened my eyes a little bit more to what was coming, to the pressure coming down from government and the need for farmers not to remain silent," David says. "It was from a different angle rather than just what was on the farm."

David returned home knowing farmers needed to be informed of the issues councils were actually facing.

"I saw the need for farmers to be informed, to gain knowledge so they were aware of what their obligations were, but also so that they were part of a bigger picture for the wider community. We needed a unified voice, not just one person doing something up in the valley."

"I enjoy the environment. I like my trees, I like farming, but I realise that's part of a community and what I do on my farm will affect the rest of the community."

David's focus has very much been about getting information for the group, rather than telling farmers what to do.

"We just want to know how you see it, and understand what the scientists are trying to say. You give us the information, you give us the facts. We don't want the conclusions," David says.

While the group members might all live in the same area, David is clear that what ties them together is deeper than that. It's about the water.

"Because the river and the estuary are very much shared by all, that's what our connection is. And so I've tried very much to make it a point of connection between sheep farmers, beef farmers, dairy, forestry, the community," David says.

David describes the group's major success in their first year as building that sense of connection.

"Because of the catchment and the high rainfall we have in this area, it does create a need for support for one another of what we're doing."

David says as farms are getting bigger, people are becoming more isolated so lending a hand and knowing what your neighbours are doing is increasingly important.



David Diprose

A shared knowledge of individual farms, and taking ownership from an environmental point of view has also been an important step for the group. There's a growing awareness of what's required and what's coming up and that's been beneficial, he says.

The biggest challenge now is not creating apathy David says. "We need to keep the right sort of momentum. I don't want it to be meetings for the sake of meetings. I want people to be aware of what's happening in the catchment and be aware of their neighbour and what they're doing."

David says he's learnt a lot this year but one thing stands out.

"We need the sheep and beef farmers working with the dairy farmers. I don't know what the levels [limits] are going to look like going forward, and that scares me a little bit at the moment, but knowledge will help that."

Now others are looking to create similar groups in their own patch, watching this group's progress and seeking advice.

"I knew that getting the framework right was quite important because these catchment groups will hopefully be the vehicle that council will use [for catchment limit setting]."

Water and Land 2020 & Beyond

A critical issue

Denise and Ivan Hopper have certainly learned during the past wet winter that swales are a hugely important part of a paddock and need some careful management.



Denise and Ivan Hopper

Almost all farms have critical source areas or swales (a low-lying part of a paddock that can be wet or marshy), particularly those lying in hill, rolling and undulating country. While there may be a dozen or more critical source areas on a farm, managing the most significant ones can have the biggest impact.

The Hoppers took over a 120ha dairy farm at Morton Mains eight seasons ago and added an 88ha sheep farm two years ago, which they converted to dairy and bull grazing. Ivan says there were no fences along the drains on the property when they took over, "and it helps to have some".

Following a Dairy NZ discussion group meeting on swales, Denise and Ivan quickly saw that one of their main grazing blocks had a large depression in it.

"There's one paddock we're not going to crop again because it's got a rut in it," Ivan says.

"We had crop through there, mainly kale, but the bulls were standing in the water so we fenced that off. There's a waterway at the bottom and now there's riparian planting along there. We've put it back into grass and that will hopefully filter the hill behind it."

The problem with critical source areas is that heavy rainfall can transport sediment, nutrients and bacteria over the paddocks, straight to waterways. This can have negative impacts not only on the waterways but also on farm productivity.

"We don't really want to pollute it, we don't mean to. I think as a farmer, you don't want to see your dirt going down the stream. That's the quality soil. And it's no good having your stock in water either. They don't like it," Denise says.

They agree that swales can be difficult areas to grow good crops because they are generally always wet and draining them isn't an option.

"You can do whatever you want to them, but some areas are always going to be wet areas," Denise says.

Research has shown that by strategically grazing and carefully managing swales, losses of sediment and phosphorus can be reduced by 80-90%.

The Hoppers have just one swamp area left to fence and say they have been lucky to be in the catchment area that Environment Southland is putting a lot of effort into through the Living Streams programme. They have taken advantage of the funding assistance for Living Streams catchments, which subsidises fencing and planting in areas where water quality will benefit.

Check out Environment Southland's factsheet on good management practices for critical source areas.

Go to www.es.govt.nz.

Strategic grazing trial

In 2012, AgResearch scientists studied the difference that management practices can make on sediment and nutrient losses through runoff. The trial found that strategic grazing and careful management of critical source areas (swales) greatly reduced water, sediment and nutrient losses. Conventional strip grazing lost 1140 kg/ha of sediment while grazing the least risky areas first and moving downhill, leaving the critical source area to last, resulted in the loss of only 130kg/ha. Go to www.dairynz.co.nz for more information on the results of this Telford Dairy Farm strategic grazing trial.

Five star upgrade for water monitoring

Problems with pigeon poo and flat batteries are a thing of the past for an Environment Southland water monitoring station.

Environmental technical staff spent hours on a cold day in October on the banks of the Aparima River at Thornbury, upgrading the water monitoring station, which is now quite the 'Hilton' of stations.

The station houses equipment which will monitor everything from water levels to water quality and the automatic water sampler is one of six to be utilised around the province. The samplers are pre-programmed to take samples from rivers and will be particularly useful during periods of high flow.

Featuring a container structure secured on a platform above flood levels and automatic water sampler piping leading to the river, the station replaces the previous one which was battery powered by solar panels.

Environment Southland principal environmental technical officer Dianne Elliotte says the upgrade project has been ongoing for several months, with a major part of the work being to install a mains power system to the station, removing the need for constant battery replacement, which was time consuming for staff.

Due to the location of the monitoring station, the solar panels were partially obscured by the bridge and pigeons also regularly left their deposits on the panels, so they didn't work to their full capacity.

The water sampler is programmed to increase the frequency of samples during the rise and fall of a flood which provides a much better picture of the nutrient and sediment levels in the water. This helps provide information on the volume of nutrients and sediment being transported by the river into the estuary and the effect this may have on the ecosystem.

There are lots of factors which influence the levels of a river during a flood, including the intensity of the rainfall and how saturated the soils are within the catchment at the start of the flood.

The automatic water sampler allows Environment Southland to collect samples day and night so we are capturing a whole range of flow, nutrient and

sediment levels for that particular event.

The sampler holds 24, one litre bottles, with two bottles needing filled for each sample, to have enough water for the variety of tests required.

Much of the work carried out has been about future-proofing the site, with the station situated above the 1984 flood level and capability to increase the number of sensors as monitoring requirements change and develop.

Environment Southland staff spent a full day out at Thornbury getting the system up and running, digging trenches for the pipes to run down to the river, relocating all the monitoring equipment and setting up the container with the necessary equipment.

The job was huge and staff spent much of the day thigh-deep in the cold water.

Dianne says they hope those visiting the area will respect the site and appreciate its significance.

There are a number of other key monitoring sites around Southland with upgrades planned to future-proof the infrastructure.

Did you know...?

Environment Southland monitors:

- 63 sites for water quality
- 51 river water level sites
- 41 rainfall sites
- 31 river sites for algae growth
- 29 river flow sites
- 13 marine recreational bathing sites
- 8 shellfish gathering sites
- 7 freshwater bathing sites



Environmental technical officers Stacey Stuart (left) and Gemma Scott spent hours in the water installing new monitoring equipment.

MONITORING THE REGION'S PESTS

(Photo – Nga Manu Images)

With Environment Southland and a number of community groups busy carrying out pest control work throughout the year, the biosecurity team uses some interesting methods to monitor their success. Bluff Hill, Omaui Reserve, Bushy Point (Otatarā) and Mores Reserve (Riverton) all have community groups actively involved in reducing pest numbers and increasing biodiversity. Two of the key tools used to monitor results are the 'five minute bird counts' and 'rodent tracking tunnels', but how exactly are they done?

The sounds of the bush

Local identity and ornithologist Lloyd Esler is employed to undertake five minute bird counts at the four sites that currently have community group pest control programmes.

Until now, the count has been carried out at four different times throughout the year, but future studies will be conducted on three given days in November each year. This will be more consistent and make the results less influenced by the time of year and weather conditions.

Lloyd makes his way through the bush, stopping at 20 count stations in each area and spends five minutes carefully counting visual and audio signals of birds.

He has a talented ear for identifying the different species, but says some can be very difficult to distinguish, with tui and bellbird, for example, having very similar calls.

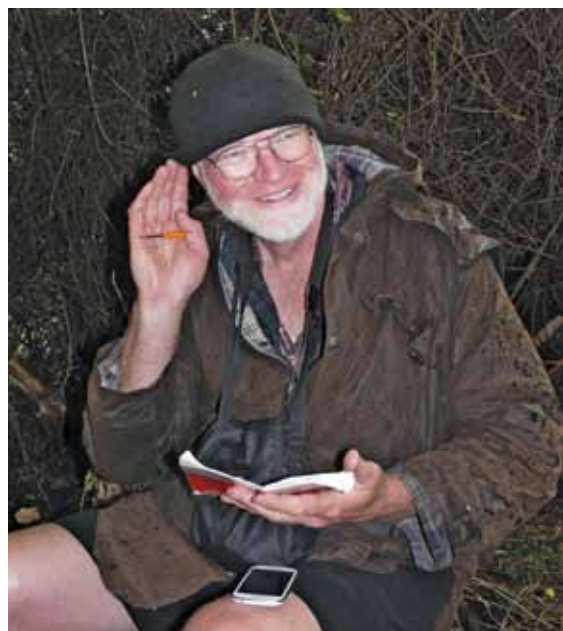
Certain times of the day and the weather all

play a part in the activity of the birds. "In the early afternoon the birds tend to go quiet and they are often quiet on a hot, still day. They seem to like a wee bit of wind, this is when they are most vocal."

Recent results show very little in the way of strong trends, although at a couple of sites there is an apparent upward trend in the number of some native species observed.

Biosecurity manager Richard Bowman says it can be really difficult to identify firm trends, as simple things such as the wrong weather on the day or just simply a day when the birds are less active or quiet can make a big difference.

"However, we are starting to get some good baseline data which will help us keep a check on these areas and, most importantly, see any decline which may indicate pest numbers are not being well controlled."



Above – Ornithologist Lloyd Esler sits quietly in the bush, listening intently for the bird calls.

Tiny tracks tell tall tales

Rodents might leave tiny footprints but they can have a big impact on our native bush and birdlife. It is these tiny footprints that are providing the necessary information for Environment Southland biosecurity staff monitoring pest control work.

Rodent tracking tunnels are used up to four times a year at the pest control sites in Bluff, Omaui, Otatarā and Riverton, with up to 60 tunnels placed in some locations.

The tunnels are baited with peanut butter to attract the local creatures and those entering walk across an ink pad, leaving their prints as they depart. The tunnels are left overnight and the tiny footprint images are collected the next morning to be analysed.

It's clear from the study that all manner of creatures visit the tunnels, including rats, mice, stoats, hedgehogs, the occasional possum and plenty of insects.

Biosecurity officer Robert Schadewinkel says the information doesn't provide data on the total numbers of pests present, as it doesn't identify individual animals, but it gives a good indication on the variety and abundance of pests that are making themselves at home in the native bush.

"Although it helps tell us what sort of animals and insects are about, it can be a bit confusing because we don't know if, for example, it is one rat walking through the tunnel over and over again, or a whole family of rats," Robert says.



Below – Biosecurity officer Robert Schadewinkel checks out some of the tiny footprints left by visitors to the tracking tunnels.

Getting the best from your fire

The proposed new air rules are the perfect prompt for Southlanders to rethink the way they use their fires, according to someone at the front line of the home heating industry.



Parklands Firewood and Landscape Supplies yard manager Chris Sutherland believes a change in mindset is needed if people want to get the best value for money from their fires and this, in itself, will lead to improved air quality.

“It’s not even so much about what people burn, but how they burn it. That can make all the difference to what you get out of your fire in terms of heat and also what goes out the chimney.”

As a major player in the home heating industry in Southland, Parklands is well aware of the implications of the proposed rules, but also recognises the importance of achieving the best possible air quality for Southlanders.

Chris is a firm believer that dry wood is one of the important factors in achieving cleaner air. “Burn it dry, burn it clean, burn it hot, that is the answer.”

However, he says that means the community needs to be more prepared, to think ahead in terms of their wood supplies and not leave it until the last minute.

Left – Parklands Firewood and Landscaping supplies yard manager Chris Sutherland wants Southlanders to recognise the true value of having good quality and properly dried wood.

“Nobody will get the best out of their fire if they are burning wood that isn't properly dry and that's how you get a lot of smoke.”

Chris also points out that using fires as rubbish disposal units is not what they are intended for, with rubbish, particularly plastic and disposable nappies, creating significant smoke.

There is concern the proposed air rules will impact most on those on low incomes, who can least afford additional expense.

Thinking ahead and buying wood outside of winter and in bulk lots is the most economical option and allows people to get the best out of their fire.

“People also need to think about where and how they store their wood. If you put green wood away inside your garage, it's not going to dry. It needs a bit of wind around it and then when it's basically dry, move it inside.”

A well maintained fire will help reduce smoke and provide the best heat. “We see some awful situations, where people are running fires without the glass, or without door seals, and still expecting to get good quality heat. Your fire is like a car, you wouldn't run it on three cylinders and expect to get the best out of it.”



Where are we at with the Air Plan?

Southlanders want clean air – there is little doubt about that, but there are many views on how this should be achieved.

The public response to the call for submissions on the *Proposed Regional Air Plan 2014* last year was pleasing, with more than 750 people choosing to make their thoughts known.

A number of people from throughout Southland and even further afield, wrote in support of the rules due to the impact of air quality on people's health, while many more recognised the need for improved air quality, but expressed concerns around the timing and cost for householders to comply.

Environment Southland's director of policy, planning and regulatory services Vin Smith says we recognise that this is a difficult and challenging issue for the community and he is pleased to see so many people took the opportunity to write in with their views and concerns.

Initial submissions on the rules closed in early November and a summary of the submissions was released in late January. Submitters can now make further submissions on the Air Plan, as allowed for in this statutory process. Once these are collated the hearing process can get underway.

Hearings are expected to be held in the second quarter of this year, with a number of days allocated for hearings in Gore, due to the high level of interest from this area.

More than half the submissions were received from Gore residents alone, many concerned about the ban of coal with a high sulphur content. Other concerns included the timeframes for phasing in the rules and the need for financial assistance to help people replace non-compliant burners.

Environment Southland, as a regional council responsible for our natural resources, is required to address air quality problems to meet the Government's health-inspired National Environmental Standards for Air Quality. Smoke from home chimneys is the major cause of air pollution in the built-up areas of Invercargill and Gore, particularly during the winter months.

Work on an assistance package to help those who will find it difficult to make the change to cleaner heating options is underway.

A decision on the proposed rules is expected to be released by August.

Your website for air quality information



BreatheEasySouthland.co.nz



THINGS TO LOOK OUT FOR...

Together on the road to success

Environment Southland and the Otago Regional Council have united to deliver a more efficient and effective roading strategy that will benefit both regions.

For over a year, the two councils' transport committees have been working on the Draft Otago Southland Regional Land Transport Plan, which aligns work programmes for roading across the two regions.

Environment Southland's senior resource planner for transport, Russell Hawkes says each council was required to produce its own plan under the Land Transport Management Act 2013, but both councils saw the opportunity to be more effective and efficient by working together.

"The primary reason for our collaboration is to strengthen the voice that we will have at a national level," he says.

The combined approach aims to increase the chances of individual projects getting off the ground, as available funding for roading projects within the National Land Transport Programme has tightened.

Having an aligned strategy across the regions also means there is an opportunity to work across boundaries, and prioritise projects that affect both regions.

"One example of a regionally significant project is the proposal for road works just north of Oamaru, where flooding frequently causes the road to close," Russell says. The road is situated in the Otago region, but is of particular importance to Southland.

"This road is our link to all goods coming down, and if it's closed for a long time it means we won't have bread on the shelves."

The Draft Otago Southland Regional Land Transport Plan is out for public consultation until the 6 March 2015. It includes all proposed State Highway and council projects for Southland and Otago for the next six years, along with each project's details and the priority it has been given.

High-priority roading projects in Southland

- Stock effluent dump site in Eastern Southland
- Pyramid Bridge replacement
- Edendale by-pass
- Elles Road roundabout upgrade
- New ticketing system for public buses
- An upgrade to improve the link between penguin viewing sites on the Southern Scenic Route.

What do you think...?

What should the top priorities for road transport in Southland be? If you've got something you would like to contribute, please write to service@es.govt.nz. Submissions will be received until 6 March 2015.

RECREATIONAL WATER SURVEY

Environment Southland wants to know about where you swim, boat and collect seafood. Complete our online survey on recreational waters or pick up a copy of the survey at Environment Southland or any Invercargill City Council or Southland District Council office or service centre.

The survey will run through until 30 March and those who complete it go in the draw to win one of five \$100 vouchers.

20TH SOUTHLAND ENVIRONMENT AWARDS

Nominations for the 2015 Southland Environment Awards will open on 23 March. The awards acknowledge the hard work and dedication of those who go the extra mile to improve or maintain the quality of our natural environment.

There are categories for individuals, schools, farms, businesses, community groups and innovation. People can enter in up to two categories and can nominate themselves or someone else.

Nominations will close on 1 May, with taking place during May and June before the awards ceremony on 30 July.

Nomination forms are available on our website or give us a call and we will post one to you.

WHAT'S THE PLAN?

As a regional council Environment Southland is responsible for managing our natural resources – water, land, coast, air. This is no small task and it requires a long-term view and a strategic approach.

Along with all the other councils in Southland and around the country, our councillors and staff are putting together a 2015–2025 Long-term Plan, which will set our direction and budgets for the next 10 years. That means prioritising work streams and setting rates, which affects us all.

We review the Long-term Plan every three years as we're required to do. In the past we have always put together a draft Long-term Plan, sought your input, and made amendments accordingly to finalise it.

This year the rules have changed. The Government now requires us to put out a consultation document on the Long-term Plan that outlines only the few significant issues (not all issues/work streams/core activities etc). The draft Long-term Plan will still be available, but it won't be the primary way that we engage with you on it.

Significant issues are defined by their level of impact or change and are supported by the council's new draft significance and engagement policy that will be out for public input at the same time.

We expect to publicly consult on the Long-term Plan 2015–2025 in April. This will be just after the local authorities have gone out with theirs, so please remain alert because we need to know your thoughts and views, too.

At Environment Southland we take a whole-of-Southland approach; the big picture perspective. How we as a community manage our natural resources has the potential to impact on our regional economy and the personal wellbeing of each one of us in some way.

It's all about quality of life: how we want to live, work and play for now and our future.

Stay tuned.

LAWA WEBSITE

When you are planning to head out for a swim, check out the water quality information on the LAWA (Land, Air, Water Aotearoa) website first.

Environment Southland, along with other regional councils throughout the country, provides information on water quality to the site, which has recently been upgraded to include information on coastal beaches.

The site now offers a seasonal guide to the beaches' water quality, as well as weekly bacterial readings, which can indicate how safe the beach is for swimming.

This allows people to check the quality of water at their favourite beaches before heading out, although it is important to take into account other factors like any recent heavy rainfall and general conditions, which can all impact on the safety of any swimming area.

Visit www.lawa.org.nz for the latest water information.

REGIONAL POLICY STATEMENT

Hearings will be completed this month on the Proposed Southland Regional Policy Statement. The statement gives an overview of the significant resource management issues facing Southland and contains objectives, policies and methods to address these.

Hearings, during which submitters had the opportunity to speak about their submissions, have been held since October.

Decisions on the Proposed Southland Regional Policy Statement are expected to be notified in May 2015.

WHAT'S COMING UP?

Brucie's Birthday – 7 March

Water and Land Public Meetings – 20, 22 & 23 April

2015 Southland Environment Awards – 30 July

OUT IN THE FIELD

Our staff and contractors are no strangers to extraordinary situations. See what they've been up to lately as they go about looking after our region's natural resources.



Follow us on Facebook to get updates on all the work Environment Southland staff are doing in our region.



Technical officers Jane McMecking and Bjorn Leigh look at some preserved fish with fisheries scientist Richard Allibone (centre) of Water Ways Consulting, who spent a day tutoring the field staff about fish identification.



Senior biosecurity officer Dave Burgess (right) shows Winton farmer Bruce Hamilton a new bait station being trialled as part of the Possum Control Programme.



Environment Southland organised a volunteer work day in November for the Mid Dome Wilding Trees Charitable Trust. Thirty one volunteers were kept busy removing around 6,000 young wilding pines from the Dome Creek site.



Environmental education officer Mark Oster conducts an experiment aboard the Southern Winds with the Kids Restore the Kepler leadership team last November. (Photo – Michelle Crouchley, DOC)