



Enviro **South**

MAY 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

New Zealand falcon (kārearea) (story – page 4). (Photo – Craig McKenzie)

Twenty year milestone

The annual Southland Environment Awards are the highlight in my calendar and this year is really special as we are celebrating the 20th year of awards.

The awards are all about recognising the amazing work of Southland people, organisations and companies whose innovation, drive and sheer hard work result in big benefits to our region's environment; making Southland a better place for all of us.

Twenty years – what a milestone. When it started back in 1996 there was a single award, now there are eight categories.

There can only be one winner in each category, but the awards allow for every nominee's efforts to receive the recognition they deserve. Every year the calibre of entries remains consistently high, so judging is never an easy task. But the judges take their task seriously, getting out and about to see and evaluate first-hand the work and achievements of the nominees.

One of our judges, Environment Southland director of operations and environmental information Warren Tuckey, has been involved since the start and many of our sponsors have been with us for a long time too. The awards wouldn't be what they are without our loyal sponsors and we're grateful for their support.

We've had some important consultation documents out in recent times – *Southland's Big 3*, (Long-term Plan 2015-25); and the *Draft Strategy and Action Plan for Waituna*. The consultation periods for both are now closed, but each takes a long term perspective.

Southland's Big 3 represents the significant issues, changes and the proposed budget for the next 10 years. It doesn't cover everything we do – that will be outlined in the full Long-term Plan – but it does give a clear explanation of our priorities and direction.

The Council has a clear vision for Southland. It is of a region that keeps pace with the rest of New Zealand, one that is environmentally responsible and socially unified.



Ali Timms – Chairman,
Environment Southland

In preparation for the Long-term Plan we developed a strategy that acknowledges this vision and the Council's leadership role in the management of Southland's natural resources. This important responsibility requires us to consider the environmental, economic, social and cultural implications to ensure we get sustainable outcomes, while also maintaining our core business activities such as stop bank and flood protection management.

Our work is supported and aided by community input and collaborative relationships with partner organisations.

Public meetings we've held for our *Water and Land 2020 & Beyond* project have had some good turnouts, which is great. It means people are becoming informed about the issues and options and we are hearing their ideas and concerns. This interaction helps us with the important decisions we are required to make and that is why I always urge people to have their say on matters that are out for consultation.



Environment Southland senior policy planner (transport) Russell Hawkes watches effluent being emptied into the new disposal site at Five Rivers.

Truck stop muck drop

The first stock truck effluent disposal site in Southland was officially opened last month and it's a very intelligent setup, complete with a text alert to let staff know when it needs to be emptied.

Representatives from Environment Southland, the New Zealand Transport Authority (NZTA), Opus International Consultants and the Road Transport Association of New Zealand gathered on the roadside at Five Rivers to open the site, with an official turning of the tap on the effluent tank of a stock truck.

It's not the most conventional way for flash new facilities to be opened, but was the most appropriate, given its purpose.

The \$300,000 joint project between Environment Southland and the NZTA has been in the planning for several years, but finding the appropriate location has taken some time.

Environment Southland senior policy planner (transport) Russell Hawkes says it was great to finally see the project complete and a further site is also planned in the near future. The Five Rivers site was selected as it is on the main route for stock trucks carting milking cows from farms around Southland to winter grazing on farms in Central Otago and further north.

"Keeping stock effluent off the highway and safely contained in disposal sites such as this has major road safety and environmental benefits."

Russell says the development of the site was a collaborative effort and transport company representatives played a major

part in selecting the location and fitting their trucks with effluent storage tanks.

"We are all working together for the same goal, so it was great everybody pulled together to make this happen."

The site holds 20,000 litres of effluent and operates an electronic system which sends an automated text message to Mr Hawkes and two contractors to let them know when the tank reaches fifty percent and then seventy five percent of capacity so it can be emptied.

FLYING IN THE FACE OF PESTS



Photo: Craig McKenzie

Joint project to improve falcon breeding success

Motion sensor cameras, tracking devices and traps sound like something from an action movie. In reality they are just three tools being used in the battle to keep the New Zealand falcon (kārearea) alive and well at White Hill Wind Farm in Northern Southland.

With a potential flight speed of over 100 kilometres an hour, the falcon is a spectacular bird. But its habit of building nests on the ground leaves its eggs and young extremely vulnerable to pests. This is far from ideal for a threatened species whose population is in decline.

A joint project between Environment Southland and Meridian Energy (who own the wind farm) aims to rid the site of a variety of predators, including possums, ferrets, stoats, rats and feral cats, to increase the breeding success of the falcons.

The wind farm has been home to two pairs of breeding falcons since before the farm's construction in 2006/07. As part of its resource consent conditions, Meridian Energy was required to undertake monitoring before and after construction to assess the impact on the falcons.

Now almost eight years on, White Hill asset manager Peter Mason continues to keep a close eye on the falcons and is working with Environment Southland's pest animal team to reduce the number of predators that put survival of the falcon's offspring in jeopardy.

As part of the North Range Possum Control Area (PCA) set up by Environment Southland, the wind farm underwent an initial possum control operation in 2013, which resulted in 1390 possums being killed in the area.

Mr Mason says the remaining possum numbers have been reduced by a contractor working as part of the PCA programme and the focus is now on the other pest animals.

"With possum control, using bait stations, we had to be quite conscious of the falcons, what they were feeding off. The traps for the other pests don't have the same issues, so we can really hit them hard."

What is a Possum Control Area?

A Possum Control Area (PCA) is an area where a group of landowners work together to maintain low possum numbers. Environment Southland staff work and liaise with these landowners to coordinate effective ongoing possum control. Environment Southland currently has 32 PCAs successfully operating across the region.

Driving around the roads of the wind farm, proof of the work is evident, with traps set every 200 metres along the roadside. A contractor is employed to set and clear the traps.

Environment Southland biosecurity officer Craig Smith says the multi-pest control approach dramatically improves the breeding conditions for the falcons.

“These pests are a problem for lots of native wildlife in the region, but reducing their numbers is particularly important when we are looking at the survival of a threatened species like the falcon,” he says.

“Meridian is one of several properties in the area who are already working on multi-pest control and this will hopefully have a significant effect through the wider area.”

Craig says the joint efforts of Meridian Energy, Environment Southland and ecologists monitoring the falcons have been a clear example of how working together can have benefits for all.

Boffa Miskell ecologist Diana Robertson, along with local ecologists, has been involved in monitoring the falcons since the start of the wind farm project.

She says reducing the number of pest animals which raid the nests of the falcons is the best way to give the population the highest chance of breeding success.

“It is great that Meridian are doing this work. They don’t have to as part of their consent



Meridian Energy’s White Hill Wind Farm asset manager Peter Mason and Environment Southland biosecurity officer Craig Smith check a bait station.

any more, but they have continued with the monitoring programme and are increasing their pest control.”

Motion sensor cameras have clearly shown pest animals raiding the nests. On one occasion, a single ferret attacked a nest and took three chicks and one egg.

With no signs of chicks in the last breeding season, Diana is hopeful that Meridian Energy’s increase in predator control might

pave the way for a successful season later this year.

“The goal is to reduce the number of pests over the autumn/winter period and set things up for the breeding season,” she says.

Diana says if the season is successful, they will try to get a tracking device on at least one of the chicks, to get more insight into where young falcons go once they leave their nests.



Photo: Craig McKenzie

Falcon facts

- Falcons can fly at speeds of over 100km/h.
- The falcon is a fierce hunter who kills its prey with a quick powerful bite to the neck.
- They can catch prey larger than themselves.
- A typical clutch consists of 2-4 eggs, which take about 33 days to hatch.
- Nestlings are fed by both parents.
- They are extremely aggressive towards intruders near their nests.
- The falcon (kārearea) features on the New Zealand \$20 note.



Water's relationship with the *land*

Thanks to some innovative science, Southland has taken a huge step forward in understanding the links between water and land. Southland's abundant natural resources underpin our regional economy and quality of life. They play a major part in forming the magnificent environment that we live, work and play in.

The variety of world class environments within our region has a lot to do with our geology, which is some of the most complex in New Zealand. Thanks to a large piece of work, we now understand this complexity a whole lot better.

Director of policy, planning and regulatory services Vin Smith says, "The understanding the science team has developed with the 'physiographic' work provides us with a better understanding of the relationship between water origin, landforms and water quality and a precise understanding of what influences water quality in specific areas. This work recognises that one size does not fit all."

Environment Southland science manager, Dr Clint Rissmann, is responsible for leading Southland's *Water and Land 2020 & Beyond* science programme. He says the physiographic work put water quality issues in context. "Assessments of water quality in Southland have been restricted to consideration of nutrients, sediment and bugs. We need to understand far more than just these factors to make sense of our region," he says.

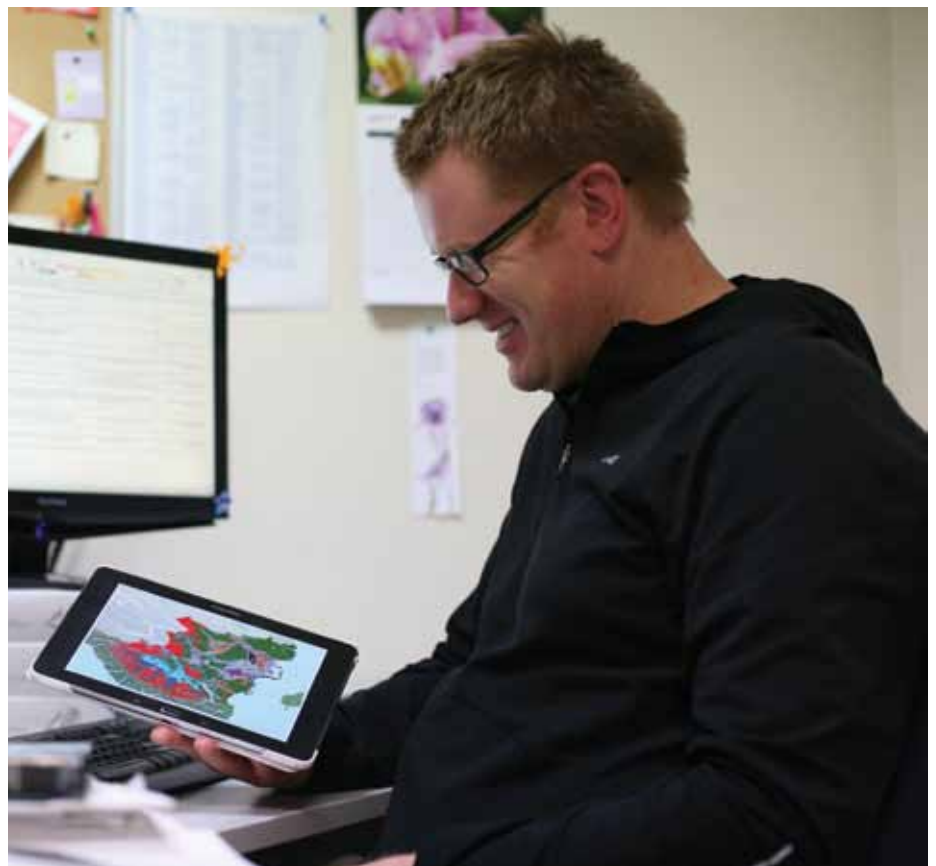
What our water is made up of varies according to where it originates from and the materials it passes through, Clint says. "For example, water that's come from high altitude snowmelt or from coastal rainfall has incredibly different chemical fingerprints."

As that water passes through the soils and various geological formations, it collects

other naturally occurring and introduced substances and microorganisms.

"When we look at our water types in Southland, they show distinct spatial patterns depending on landform type and distance from the coast," Clint says.

"It explains why we see such water quality variation in some areas and not others. Also apparent is that specific water quality issues vary with landform type. For example, nitrate may be elevated in some areas but not others."



Environment Southland science manager Dr Clint Rissmann studies a map of the distinct water types throughout Southland.



Water and Land 2020 & Beyond

Using a range of studies as well as soil, geological and hydrochemical data, the science team is now working on more precisely mapping the region’s relationships between water origin, soils, geology and ultimately the water quality outcomes seen in surface and groundwaters.

Vin says this science provides a lot of the background information needed to develop rules and policies for the draft *Water and Land Plan*. “The plan will allow us to manage the adverse effects of land use on water quality, ensuring the right mitigations are put in place for the land, water and activity type which by virtue, will ‘hold the line’ [halting any further decline] and potentially improve water quality over time.”

Moving to catchment limit setting

The *Water and Land Plan* is the focus for this year. It will provide a solid base from which to move to the limit setting process, starting in 2016.

We know that the community wants to understand how limits will eventually be developed now, and in particular how they will be applied. However no decisions have been made on what limit setting will look like for Southland, and no decision has been made on how a limit will be applied.

Our approach is different to other regions. We are developing our science and economic understanding first. This will provide us with Southland-specific information on our natural systems and economic impacts on our businesses and people. We will then be in a better position to understand how limits could be applied and what impact they might have on our region.

Where are we at?

Currently, 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.

MILESTONE	WHEN
Draft <i>Water and Land Plan</i> released for discussion	Mid 2015
Notify the <i>Water and Land Plan</i>	Late 2015
Explore regional nutrient allocation methodologies	Jan 2016 – July 2016
Community conversations about values and limit setting <ul style="list-style-type: none"> • Science updates • Community values • Catchment limit setting process 	July 2016 - 2017
Catchment limit setting process <ul style="list-style-type: none"> • Fiordland / Stewart Island 	July 2016 - 2017
Catchment limit setting process <ul style="list-style-type: none"> • Matakura and Aparima 	July 2017 - 2019
Catchment limit setting process <ul style="list-style-type: none"> • Waiau and Oreti 	July 2018 - 2020
Catchment limits notified	2020 - 2021

Draft Water and Land Plan

There will be opportunity to comment on the draft *Water and Land Plan* due to be released mid-2015. It will then be refined and is expected to be notified late 2015.

Stay up to date with the Water and Land 2020 & Beyond project by subscribing to our e-newsletter at www.es.govt.nz

20
Years!

SOUTHLAND ENVIRONMENT AWARDS

Environment Awards celebrate 20 years

This year the Southland Environment Awards celebrate their 20th year. Beginning as a single award presented at an afternoon tea in the Council chambers, the event has grown to a gala night, with eight categories and around 350 people attending.

Importantly, the purpose of the event remains the same. The awards were established by the Southland Regional Council to recognise and celebrate Southland's environmental champions, and that holds true today.

Nominations are accepted in April/May each year across seven categories, with an eighth category reserved for the Councillors' Special Award.

The first year of the awards attracted 17 nominations, and each year sees more people, groups, farms and businesses putting their names, or someone else's forward for consideration.

Thanks to the sponsors, prizes of cash and services are awarded in each category. This too has grown and changed since sponsorship started in 1998.

From the very first winner, Ian and Jenny Gamble of Bushy Point in Otatara, to our recent Schools' Award winner, Lees Street Kindergarten, the judges continue to be impressed with the dedication and passion shown by every nominee.

Follow us on Facebook or check out the next *Envirosouth* magazine in August to see who will take home the prizes at the 20th Southland Environment Awards. Winners will be announced at Ascot Park Hotel on Wednesday 5 August.

A champion of Southland's environmental achievers

Being involved in something for 20 years these days is pretty special, but when you've been there from the beginning and many of the improvements are at your suggestion, that's more than special.

This is true of Environment Southland's director of operations and environmental information, Warren Tuckey. Having worked for the Council for many years, Warren was instrumental in helping get the first Southland Environment Awards off the ground in 1996.

"The awards were designed to recognise people doing really good things in the environment, unheralded," Warren says.

In those early days the written application had to stand on its own merits. "We didn't go out and visit all the nominees in the first few years, and putting everything down on paper was too tough for people."

A significant change came early on, with site visits allowing judges to get a better understanding and feel for the work being done by nominees. "It means so much to

them, that the four judges take the time and come out to see their work," Warren says. "Now some of the nominees expect us to spend the day with them, which we can't do, but they're just so pleased to have us there."

Warren says over the years it's been a great experience to go out there and actually meet the people and see the projects. "They're often quite embarrassed about the whole thing [being nominated]. The work they are doing is just so much a part of their lives they don't see it as something special, they just see it as the right thing to do," he says.

"We've seen old guys like me, up and down the steep hills doing possum lines, rat lines. It's quite amazing," Warren says. "Guys that you wonder how they keep going, but they just love it. It's what keeps them going, I think."



The variety of categories in the awards now means that judges meet people from all walks of life. Warren laughs as he recalls a particular visit to a kindergarten in Fiordland. "I wandered off ahead of the group and this little kid stopped me up because I was out of sight of the teacher and everyone has to be in sight of the teacher at all times."

"What was great about that kindy was that those kids were out there with axes, climbing trees, learning all kinds of skills," he says.

Being involved in the awards continues to be a highlight for Warren. He says what makes it exceptional each year is the people. "Seeing what these passionate, dedicated people are doing, of their own accord, is incredibly inspiring."

Above – Warren Tuckey with a friendly touch while out judging.

Left – Environment Awards judges (from left) Councillor Marion Miller, former Councillor Brian Mason, Environment Southland staff Gary Morgan and Warren Tuckey take a break.



SOUTHLAND ENVIRONMENT AWARDS

20 Years!

BIG BUSINESS and the environment a good fit

The New Zealand Aluminium Smelter (NZAS), one of Southland's largest employers, has been a proud sponsor of the Southland Environment Awards for 15 years. It's a good fit for a company that has a strong community ethos and takes its own impact on the environment seriously.

NZAS general manager Gretta Stephens says they support the local community wherever possible, and the company's environmental responsibilities and accountabilities are part of that.

"From a business perspective, it makes good sense," she says. "Sustainability underpins everything we do at NZAS – it means that we consider health and safety, environmental, social and economic aspects in our decision making processes and actions."

NZAS has a special relationship with the Southland Environment Awards, being both a former category winner, and a current sponsor of the Community Group Award.

"We were delighted to win the Commercial Award in 2008 for the work we carried out on Tiwai Peninsula," Gretta says. "It's nice to be recognised for the efforts put in by our team to ensure the smelter's impact upon the environment is minimised."

Being situated next to a large wetland conservation area administered by the Department of Conservation, the company considers it their responsibility to protect and maintain the surrounding area where possible.

Gretta says the high calibre of entries each year and the dedication and passion shown by so many individuals and organisations

“We are very lucky to have such wonderful, dedicated sponsors supporting the awards. They continue to come back because of the inspirational work that our nominees are achieving, and who wouldn't want to share in that.”

Councillor and awards' judge Marion Miller

throughout Southland is really quite astounding.

"We have always taken our role in the community seriously and are proud to support a number of other worthwhile community initiatives such as the Kākāpō Recovery Programme, Bluff Coastguard, Southland Science & Technology Fair and the Foundation for Youth Development Southland, to name a few. Being a sponsor of the Environment Awards is another initiative we are very pleased to support."

Environment Southland Councillor and awards' judge Marion Miller says many of our sponsors have been involved for a number of years. "We are very lucky to have such wonderful, dedicated sponsors supporting the awards. They continue to come back because of the inspirational work that our nominees are achieving, and who wouldn't want to share in that."

2015 Southland Environment Awards sponsors





Land sustainability officer Anastazia Raymond talks to a conference delegate about selecting plants for shelter and riparian margins.

Dairy women's conference a success

The national Dairy Women's Network conference was held in Invercargill recently and Environment Southland was on hand to talk to delegates about what we can offer farmers in the region.

About 350 delegates attended the conference held at Stadium Southland and organiser Loshni Manikam says it was a huge success. "We have had great feedback from delegates and sponsors on how successful the conference was. It was fantastic to have such a positive atmosphere within which all the learning took place – and the Southland warmth and hospitality played a big part in that."

Environment Southland staff took the opportunity to talk to both local and out-of-town delegates about how we are approaching the Government's requirements for freshwater, through our *Water and Land 2020 & Beyond* project, particularly the setting of catchment limits to maintain water quality.

We are taking a different tack to other regional councils by first doing preparatory work to understand Southland's unique physical geography and geology, as well as the economic, social and cultural impacts of potential policies.

Land sustainability officer Fiona Young says a lot of the out-of-town delegates were involved in their local Council's processes for setting limits so it was great to learn more about what they thought was working in their areas, and to share our early thinking around limit setting for Southland.

Conference delegates also had the opportunity to learn more about Southland trees by correctly identifying seedlings and entering a draw to win a nursery voucher. Among the plants were the recommended

native seedlings for riparian planting, exotic seedlings for shelter planting, and native species that were once abundant across the region. Congratulations to Brooke McKenzie of Wyndham, whose name was drawn from the correct entries at the end of the conference.

Water and Land 2020 & Beyond

For more about our *Water and Land 2020 & Beyond* project and its associated science and economic programmes please contact Environment Southland or visit www.es.govt.nz.

Growing an income, not weeds

Hedgehope farmer keen to see more landowners
turn wasteland into investments

Makarewa River Liaison Committee chairman Warren MacPherson, with the stand of pines soon to be harvested.

Last year was one to be proud of for Warren MacPherson. The Makarewa River Liaison Committee he chairs was nominated for an environment award, for its efforts in controlling gorse and broom on an unused riverbank – by planting a cash crop of pine trees in the late eighties.

“If we’d sprayed it every year it would have just been a ratepayer’s expense to keep the gorse away. But when the trees got up, the gorse couldn’t grow because there was no light.”

The 2.3 hectare stand of trees, with an estimated value of \$110,000 is soon ready for harvest and Warren hopes it will inspire others to do the same with land that’s otherwise currently wasted.

“You could plant pine trees or lucerne for cut and carry – anything to avoid costly spraying of weeds. No one makes money out of broom and gorse, unless you’re a spraying contractor.”

On his own property, Warren gets rid of most of his weeds by using productive pasture as competition. He drains and crops road margins along his farmland, and hence doesn’t need to spray them.

Warren still uses a contractor to control gorse and broom on all other river banks,

but says the approximately \$2000 a year he spends to do this produces excellent results. “I just do it every year – it’s a simple matter of keeping on top of it.”

If left uncontrolled, gorse and broom plants growing along riverbanks drop their seeds into the water and germinate on banks downstream, creating work for other landowners.

Warren says joining a river liaison committee is an ideal opportunity for anyone with an interest in their local river to make a difference. “The aim of the committee is to have a group of ratepayers that takes pride in the river as a community.”

SOUTHLAND RIVER LIAISON COMMITTEES

The Makarewa River Liaison Committee is one of seven set up by Environment Southland to advise and assist in the development of annual maintenance works programmes, and report on river issues in each catchment. Anyone with an interest in the catchment can attend their annual meetings. Contact your local River Liaison Committee chairperson:

- **Mataura River** – Dylan Ditchfield, ph 03 202 5313
- **Oreti River** – Hamish English, ph 027 488 0604
- **Aparima River** – Grant McGregor, ph 027 436 0384
- **Te Anau Rivers** – Barry Taylor, ph 03 249 7053
- **Makarewa River** – Warren MacPherson, ph 03 236 4077
- **Waiau River** – Peter Horrell, ph 03 226 6728
- **Waimatuku Stream** – Tony Strang, ph 03 224 6213

Set for success

Automatic rat trap trialled in one of Southland's last native forest remnants.

Clack! – within a matter of seconds a rat drops to the ground and a coil silently pulls the gas-powered piston back into striking position. Self-resetting traps are at the centre of an Environment Southland project to boost biodiversity.

The five-year trial project specifically looks at increasing native bird numbers in a remnant of native forest in the Lower Maitava catchment through the intensive control of rats.

Biosecurity officer Robert Schadewinkel says there is more to it than that. "Animal pests are a huge threat to Southland's biodiversity and rats are one of the biggest threats to tree nesting birds. One goal of the project is

to reduce their numbers to non-detectable levels – but we also want this project to become a case study for the public, to show people that controlling pest animals in bush blocks can be done without a huge effort."

Together with a team of colleagues, he's installed 50 of Goodnature's A24 automatic humane rat and stoat traps throughout a 20-hectare forest site known as Stirling Block. The block contains some of the

southern-most beech forest in the country, and is one of seven QEII covenants in the area owned by Environment Southland.

"We chose Stirling Block for our trial because forest remnants are highly valuable in terms of biodiversity, plus it had the best public access of the seven covenants so it will be easy to take people there in the future and show them what we've done," Robert says.

Like all private landowners, Environment Southland has the responsibility to carry out pest control on its own land – and although trapping of stoats and possums has been carried out regularly, it's never been done to a similar intensity as this project.

Mechanical traps have until recently been inefficient, but the A24 is a game changer. "Each trap was only able to strike once, and this meant that if a trap was triggered only a couple of hours after we set it, it could sit inactive for days, weeks or even months," Robert says. "The A24 overcomes that issue by using a gas cylinder to self-reset 24 times before it needs to be re-gassed." The A24 also has the advantage of leaving no chemical residue in the environment.

The trap has already established a track record in Southland, being recently used in conservation projects on Native Island off Stewart Island, and in Fiordland's Kepler Mountains. Robert hopes this project will follow in the footsteps of the trap's existing successes, and already has big plans for the soon to be pest-free covenant.

"If all goes to plan, we could look at introducing threatened species such as South Island robin into the area in the future."



Check out the video of the trap installation on facebook.com/enviromentsouthland

The A24 automatic rat and stoat trap is used in Environment Southland's latest biodiversity enhancement project in the Lower Maitava.

How does our air measure up?

There are only a few things in life we truly can't live without and air is definitely at the top of the list. Everyone has the right to breathe clean air, but the activities we undertake as part of our day-to-day lives have an impact on our air quality and subsequently on our health, as we inhale contaminants into our lungs.

Southland's regional air plan is under review with hearings soon to take place on proposed rules that affect home heating, outdoor burning, agrichemical and fertiliser use and fire training. The aim is to improve air quality for the health and wellbeing of Southlanders and to meet the Government's health-inspired National Environmental Standards (NES) for Air Quality.

We monitor the quality of our air to identify where we are at in terms of meeting these standards. This information is available on our website and through advertising during the winter months.

Monitoring air quality is quite a complex process and requires technical input to set up and maintain the equipment and analyse the results.

Where do we monitor our air?

Currently, Environment Southland has four air quality monitoring stations – two in Invercargill (Glengarry Crescent and Pomona Street) and one each in Gore and Winton.

The Invercargill and Gore sites are in airsheds identified as not complying with the Government's NES. The Winton site is part of a survey monitoring programme that monitors urban areas outside the airsheds for potential problems.

Air quality scientist Owen West says two different types of monitoring equipment are used: the high volume sampler and the continuous beta attenuation monitor. Having a mix of both types of monitoring equipment in our airsheds provides the best information on our air quality.

Owen says it is not simply a case of setting up the equipment and leaving it to do its thing. Staff are required to go through a rigorous process for changing filters to ensure the results are as accurate as

possible. This includes weighing the filters before and after they are replaced and ensuring the humidity level within the filters is controlled to strict criteria.

High volume sampler

A high volume sampler operates for a 24-hour period every second day in winter and every sixth day in summer. It draws air into the equipment using a pump and a specially designed inlet separates the particles in the sample by size, allowing only the PM₁₀ to deposit on a glass filter paper.

Beta attenuation monitor

The beta attenuation monitor records data continuously. It collects material on filters and uses beta rays to determine the PM₁₀ concentration. The monitor calculates these results and automatically sends them to Environment Southland's database.

What is PM₁₀?

PM₁₀ is particulate matter less than 10 microns in diameter, such as really small drops of liquid and solid material, like dust. These particles float around in the air and we breathe them in. Some get stuck in our lungs and can cause problems with our respiratory systems.



Find out more about the air plan review and air quality, including current rules and how to use your wood burner efficiently.



Environment Southland technical officer, Wendy Barrow, with a new air filter (left) for a high volume sampler and a used filter turned black from PM₁₀.

THINGS TO LOOK OUT FOR...

REGIONAL AIR PLAN

Hearings on Phase One of the proposed Regional Air Plan – home heating, outdoor burning, agrichemical and fertiliser use, fire training – will get underway on 2 June.

More than 800 submissions were received on the plan, which was notified in September 2014. Everyone who submitted had the option to speak to their submissions at the hearings.

Four weeks of hearings have been set down – with the first two weeks being held in Gore due to the high level of interest from the Gore community, and a further two weeks held in Invercargill.

Environment Southland is legally required to address air quality problems to meet the Government's National Environmental Standards for Air Quality (NES). A significant contributor to air pollution in both Invercargill and Gore is smoke from home chimneys, particularly during the winter months.

Final decisions on the plan are expected to be released by the end of August. Go to www.BreatheEasySouthland.co.nz to stay up to date with developments.



The latest addition to the national LAW A (Land, Air, Water Aotearoa) website includes substantial information on water quantity in the region.

Environment Southland, along with other regional councils throughout the country, provided the information for the website's water quantity module, which shows how freshwater is used around the country.

The new module was launched in May and looks at both ground water (underground aquifers) and surface water (rivers and lakes) resources, how and where they are in most demand and what factors influence them.

There is also information on where significant flood and drought events have taken place.

The water quantity data adds to LAW A's existing regional and national information on water quality, both freshwater and coastal beaches.

Visit www.lawa.org.nz to check out the latest information.

SOUTHLAND'S BIG 3



Craigs Design and Print Ltd customer services officer, Kevin Baker, checks out one of the 45,000 copies of Environment Southland's Long-term Plan consultation document, *Southland's Big 3*. The document was delivered to all Southland homes and feedback sought on the Council's plan to tackle three of the big issues facing the region over the next 10 years. Submissions closed on 20 May and hearings are scheduled for 19 June.

2015 SOUTHLAND ENVIRONMENT AWARDS

The 20th Southland Environment Awards will be held on Wednesday 5 August at Ascot Park Hotel. The awards recognise excellence in seven categories, including a special Achiever's Award to be presented for going above and beyond the call of duty in the dedication and commitment to the environment.

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.



Bentley Roughan from Lees Street Kindergarten and Environment Southland land sustainability officer Karl Erikson plant a tree together, as part of a recent EnviroSchools planting day on the banks of the Waihopai River.



Environmental technical officer Warren McNamara with a 4kg long-fin eel caught in the Oreti River at McKellars Flat, during a Southland-wide survey of fish species and habitat. All fish caught were returned to the water after being weighed and measured.



Environment Southland compliance officer Aurora Grant and Royal New Zealand Navy Able Seaman Combat Specialist Lyson Murray on board an inflatable boat, during a trip to Fiordland. Environment Southland joined the Navy on board the HMNZS Hawea in March, taking the opportunity to carry out compliance checks and emergency management planning.



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