

ENVIROSOUTH



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Issue 20

Environment Southland News

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LOCAL BODY ELECTIONS

Enrol to vote

Enrolling as a voter is the key to taking part in any local body or parliamentary election – and the good news is that you only have to enrol once!

Everyone aged 18 or over who is a New Zealand citizen or a permanent resident is eligible to enrol. If you're 17, you can fill out the enrolment forms and your name will be added to the electoral roll automatically once you turn 18.

Once you've enrolled, you are eligible to vote.

You are also eligible to stand for election.

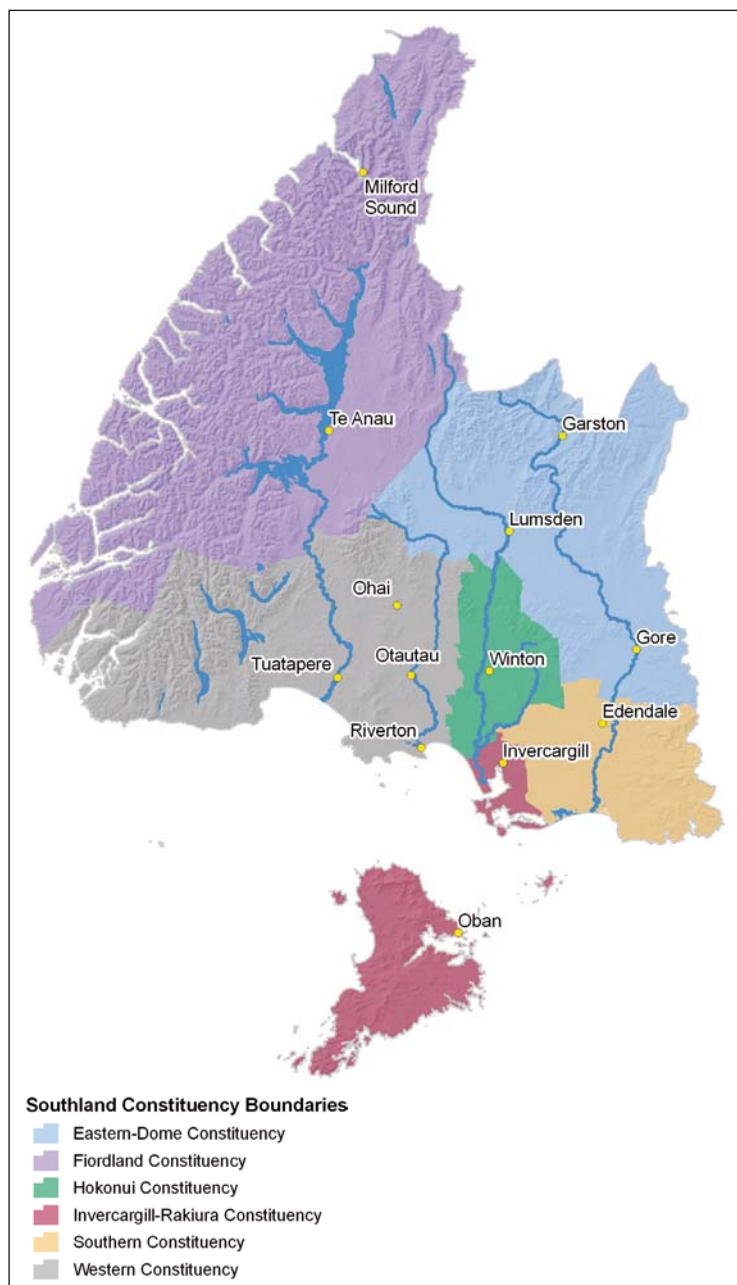
Local body elections are this October so if you're eligible to enrol, don't delay!

Enrolment forms are available at all Post Shops. You'll also find information at www.elections.org.nz. ■

Local body elections – it's your choice

It's election year, and if you're thinking about standing as a candidate for Environment Southland, here's what you need to know:

- Nominations open on Friday 23 July and close at 12 noon on Friday 20 August.
- Candidates must be New Zealand citizens and also enrolled to vote.
- Environment Southland's 12 councillors are elected in six constituencies – these are highlighted on the map. The constituencies are Eastern Dome (2 councillors), Fiordland (1), Hokonui (1), Invercargill-Rakiura (6), Southern (1) and Western (1).
- Candidates do not have to live in the constituency they seek to represent, but they must be nominated by at least two people who are enrolled to vote in that constituency.
- Candidates for Environment Southland are not allowed to stand for a territorial local authority (ie Invercargill City Council, Gore District Council or Southland District Council) as well. However, they are allowed to stand for the Invercargill or Matura Licensing Trusts and the Southern District Health Board.
- Candidates must pay a \$200 deposit. This money is repaid after the election if the candidate receives at least 25% of the votes of the lowest polling successful candidate.
- Nomination papers and candidate information packs for Environment Southland will be available from 23 July at the following places:
 - Environment Southland
 - Southland District Council main office and all area offices
 - Gore District Council
 - Invercargill City Council



SOUTHLAND ENVIRONMENT AWARDS



21 July is Awards Night ... and you're invited

The Southland Environment Awards will be presented at a special function on Wednesday 21 July, where we acknowledge all the nominees and announce the winners. Dr Viv Shaw from Te Anau is our guest speaker and will talk about the Pomona Island Charitable Trust's successful efforts to create a predator-free island for native birds in Lake Manapouri.

You're invited to be part of this celebration of environmental success in our region. Friends and supporters of the nominees are especially welcome, but anyone who is interested in the environment will enjoy this event.

Please phone 0800 76 88 45 or e-mail michele.poole@es.govt.nz to register your attendance as seating is limited. ■

And the nominees are...

There are seven different categories of awards, plus a special prize that's gifted every year by Environment Southland's own councillors.

Here are brief profiles (in alphabetical order) of the 25 nominees who are contenders for this year's awards. Each of them is making a great contribution to the environment.

Alex McKenzie Memorial Arboretum Charitable Trust

Originally a nursery for exotic trees, the arboretum on the outskirts of Otautau is being rejuvenated thanks to the efforts of its seven trustees. Though their numbers are small they have taken on a big task, including establishing a memorial grove for families to plant trees in memory of loved ones.



Anchorage Motel

From the solar panels on the roof to the recycling bins in each unit, the Anchorage Motel in Te Anau is an environmentally



friendly business. Nigel and Fiona Humphries have achieved Qualmark Enviro Gold status in recognition of their efforts, which include upgrading insulation and heating, providing in-room recycling facilities and environmental information for their guests.



Ascot Park Hotel

Ascot Park Hotel has been awarded Qualmark Enviro Gold status in recognition of the business' commitment to environmental sustainability. From the waste cooking oil that's converted to biodiesel and the reduced electricity use to the commitment to purchase from local suppliers, the Ascot

has reduced its impact on the environment and set an example for other ILT properties to follow.

Biofiltro Farm

Worm power is at the heart of Biofiltro Farm's effluent treatment system, which is providing an innovative way of dealing with dairy effluent. Effluent is filtered through a weeping



wall then drains through the worm bed before being passed under ultra-violet light. By the end of the process the effluent is of much improved quality, reducing concerns about effluent run-off contaminating waterways.



Bluff Hill / Motupöhue Environment Trust

This is a relatively new group – they've only been going two years but they're determined to make Bluff Hill a

safe habitat for native birds by trapping animal pests such as possums, ferrets, stoats and feral cats.



SOUTHLAND ENVIRONMENT AWARDS



Clean, Green Effluent Company

Lindsay Lewis is committed to developing better ways of dealing with farm dairy effluent. He has developed a system that removes more

solids from the effluent, allows most of the liquid to be re-used as greenwash, and invented a non-return valve for k-line pods that prevents siphoning at the end of each cycle. Lindsay's patented automatic system allows effluent to be irrigated at very low application rates and on rolling country.

Department Of Conservation Stewart Island Field Centre

You might expect that DOC would be an environmentally-conscious place to work, but the staff on Stewart Island are going the extra mile – one step at a time. The island already leads Southland in recycling and DOC is participating in a solar energy trial. Every aspect of the team's activities is scrutinised for its environmental impact – right down to the thickness of the toilet paper!



Johan Groters and Joyce Kolk – Wairaurahiri Jet

For over five years, Johan and Joyce have been trapping stoats along the banks of the Wairaurahiri River, encouraging

passengers on their jetboat trips to sponsor the traps and increasing awareness about the threat the predators pose to native birds. Latterly they have extended their work to take in the South Coast Track, they are influencing others to take similar action in other areas and have also organised a roadside cleanup.

Grant Hubber

Living alongside the Oreti River, Grant Hubber is acutely aware of environmental issues such as water quality, floodway management and the spread of pest plants. His own 115ha property is immaculate, with well maintained shelterbelts, riparian planting and



stock fenced out of waterways. As Chair of the Oreti River Liaison Committee, Grant imparts his extensive knowledge of the Oreti system to the many new landowners farming alongside the river.

Fred Inder

Fred Inder has been dedicated to the health of Southland's water his whole life. Now aged 80, Fred is still an Honorary Ranger for Fish and Game, Te Anau's Harbour Warden, a Guardian of Lakes Manapouri, Monowai and Te Anau, and has been in charge of the fish pass at the Manapouri Lake Control structure since it opened. He monitors water quality for both Environment Southland and Meridian Energy and is affectionately known as "the eye of the community" in the Te Anau Basin.



Invercargill Environment Centre

Sustainable transport is one of the cornerstones of the "green" philosophy, and the Invercargill Environment Centre is doing its bit by organising events like Bikewise Month and



supporting the Bike Doctor scheme, an innovative project to repair and recycle old pushbikes and lend them out to the public.

Lynmore Station

One of Landcorp Farming's showpiece properties, Lynmore Station is an example of how environmental values can be successfully integrated with high production. The 2,560ha farm runs 27,000 head of stock and has 50ha set aside under QEII covenants, including



SOUTHLAND ENVIRONMENT AWARDS



three wetlands that are used as sediment traps. Other impressive features include a well maintained network of shelterbelts and robust riparian fencing.

Knapdale School

Every Friday, Knapdale students work on environmental projects around the school. From their native garden and recycling project to their plans to transform their Eco Hut into a chicken coop, their enthusiasm and hands-on approach is evident wherever you look.



Sue McLaughlin and Nigel Brown

Windswept and exposed, Cosy Nook is a picturesque but harsh environment. Nigel and Sue have created an

oasis of shelter by planting a native garden. It's taken them thousands of hours and thousands of dollars since they moved from Auckland in 2001. As well as planting and mulching, they have fenced out hares, trapped stoats to make a safe habitat for birds, and kept the weeds at bay.

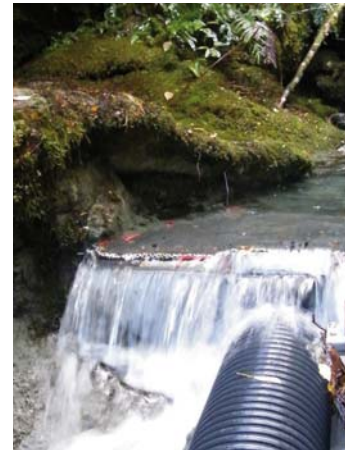
Allan McPherson and John Tait

Nestled behind Southland Hospital, Kew Bush is a peaceful place to walk among native trees and be soothed by the birds. Allan and John have been working in the bush for 10 years, first as part of the South Invercargill Lions Club and latterly for the sheer love of it. They've tackled pest plants and animals, maintained the tracks and propagated new trees to plant there.



Milford Development Authority – Knobs Flat Power Scheme

By replacing three diesel generators with a small hydro-electric power scheme at Knobs Flat, the Milford Development Authority has done a great service to both the community and the environment. Its clean, renewable generation provides electricity for the visitor facilities plus DOC and tourist accommodation with negligible greenhouse gases and hardly any noise.



Milford Development Authority – Milford Recycling Project

Though Milford Sound has a tiny resident population, the popular

tourist destination generates 400 tonnes of waste a year. Until this year, it all went to landfill but the Milford Development Authority has cut that amount by more than half in just four months by setting up a comprehensive recycling system and aims to ultimately reduce the residual waste by three quarters. 90% of the tourist operators and businesses in Milford Sound use the new service.

Myross Bush School

Ask any student at Myross Bush School about sycamore trees and they'll tell you they're an invasive weed – and they should know! The school is dedicated to getting rid of sycamores from Kerr Bush and replacing them with native trees. They've also planted a native garden in the school grounds.





SOUTHLAND ENVIRONMENT AWARDS



Otama School

At Otama School, studying the environment isn't just an optional extra – it's embedded in the curriculum. Students monitor the water quality in the Otama Stream and they've planted trees on a farm to see whether this makes a difference. Recently they've extended their efforts to take in the Mataura River.

James Pirie

If travellers on the Southern Scenic Route raise their eyes from the road just east of Tokanui, they will see a magnificent



area of native forest high on a hill to the north. James sought out and purchased the 47ha block with the sole intention of protecting its rimu, kahikatea and other trees for posterity. He has placed a QEII Covenant on the land, and regularly walks up the steep hillside to work in the bush, maintaining tracks and clearing weeds.

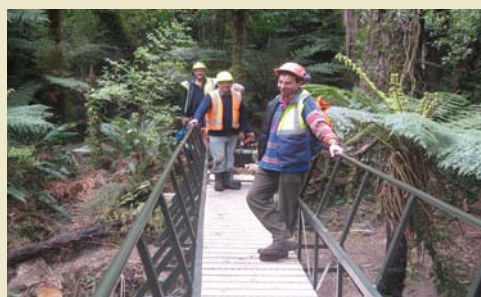


Southland Demonstration Farm

Set up to teach good practice to new dairy farmers, the Southland Demonstration Farm has sought advice on how to factor environmental sustainability into farm planning, and has set a good example by undertaking extensive riparian fencing and planting, soil health monitoring and nutrient budgeting.

Toi Tois Lions Club

The beautiful Waipohatu Waterfall Forest Track was impassable for years after DOC removed two bridges in the wake of the Cave Creek tragedy. Thanks to the tenacity and toil of the Toi Tois Lions Club, the



bush walk has been reopened with new bridges and an upgraded track, and is now being enjoyed by hundreds of visitors.

Peter Ridsdale

Thanks to the drive and persuasive powers of manager Peter Ridsdale, Ascot Park Hotel has become a model of an environmentally sustainable business. Realising that achieving success would involve more than just setting up a recycling system, he instituted a culture change within the hotel that he hopes will in time filter through the whole of the Invercargill Licensing Trust.



Tony Tressider

Tony Tressider is Invercargill's "Bike Doctor" – a keen cyclist and bike mechanic with a passion for doing up old bicycles. Tony

is the cornerstone of the Invercargill Environment Centre's cycling initiatives and has used his skills to rescue many a bike from the tip – refurbishing them so they're safe to ride again.



Weka Preschool

When Rochelle Robins established Weka Preschool in Winton seven years ago she was determined to create a natural environment for the youngsters in her care and that's just what she's done. From the shells and pebbles used for counting to the vegetable garden that supplies their lunches, the children are completely in tune with nature.

Comprehensive report into the health of Southland's fresh water to be released soon

Water is life. We, and everything around us, cannot exist without it.

That's why water has been chosen as the subject of the first in-depth State of the Environment report on fresh water completed in Southland for ten years.

"Water 2010– Our Health" is the first of four linked reports from Environment Southland on the region's fresh water resources. It will be launched in August and project manager Dr Jane Kitson is expecting it to generate a lot of discussion as it compares the results of our own monitoring with national standards and the targets within the region's Water Plan. It will also highlight trends that have become apparent over the last ten years.

Water 2010 is being co-written by Environment Southland and Te Ao Marama Inc, representing Maori resource management interests in Southland/Murihiku, in order to interweave and report on Maori values.

The information will be presented in ways that are directly relevant to how Southlanders use water day by day, eg:

- can I swim in the water?
- can I safely gather and eat food from our waterways?
- can I drink the water?

Much of the information has already been published piecemeal but this is the first time that it has all been brought together and analysed as a whole.

Dr Kitson says that the "Our Health" report focuses mostly on the immediate impacts that poor water quality has on human health, and relates human health and wellbeing back to the overall health of our environment.

"Poor water quality can have a direct effect on our health," she says. "Contaminants such as human or



animal sewage contain disease-causing micro-organisms including viruses, bacteria and protozoa. These can affect us through polluted water, when we swim, gather kai/food, drink water or eat kai that hasn't been fully cooked."

The next three pages are a brief summary of some of what you will find in "Our Health" when it is released.

The themes of the other three reports on water will be ecosystems, uses and threats. These will be released progressively this year.

Register to receive a copy of the complete report when it is released by phoning Environment Southland on 0800 76 88 45 or email service@es.govt.nz.





STATE OF THE ENVIRONMENT

Is it safe to swim and play in our waters?

In Southland the most significant known human health risk from recreation in our waterways is posed by micro-organisms that cause disease.

Our scientists report how safe Southland's waters are for swimming and recreating in two different ways based on monitoring of faecal bacteria in freshwater.

The first measure is of a single 'indicator' bacterium, *Escherichia coli* (*E. coli*), which is regularly found at 11 freshwater bathing sites between December and March each summer. The main purpose of this monitoring is to be able to warn of any public health risks.

The second measure is of six different bacteria known as faecal coliforms, which are recorded monthly at 71 representative river sites across Southland. The results provide a regional picture of faecal bacteria contamination. Faecal coliforms have been monitored at some sites since 1994, so this data can be used to track long-term trends.

The water quality at most popular freshwater bathing sites in Southland is frequently below the standard we set for 'safe bathing' in the Water Plan, and sometimes below the national standard too.

Bacterial contamination of swimming sites is generally highest following heavy rain, and/or when water flow is higher than usual. However, two popular bathing spots frequently record high bacteria levels that breach the standards during fine weather and low flow, which is when people are more likely to be swimming. Overall, over time, the figures show little significant change summer to summer.

From December 2008 to March 2009, eight of the 11 monitored bathing sites (72%) exceeded the

Water Plan standard of 130 *E. coli* per 100ml, three times or more. These same sites also exceeded the national guideline of 550 *E. coli* per 100ml at least once. The sites that complied with the standards were Mararoa River at South Lake Mavora, Lake Manapouri at Frazers Beach, and Lake Te Anau at Boat Harbour Beach.

Mataura River at Gore

The Mataura at Gore is one of the worst of Southland's monitored bathing sites, with the highest median faecal bacteria count (405 *E. coli* per 100ml) and the highest recorded level of 130,000 *E. coli* per 100ml over the last 10 years.

In 2008/09 none of the national guideline breaches at this site related to high runoff or flow, and over the past 10 years only 27% of the breaches resulted from such events. This suggests the site has high levels of faecal contamination

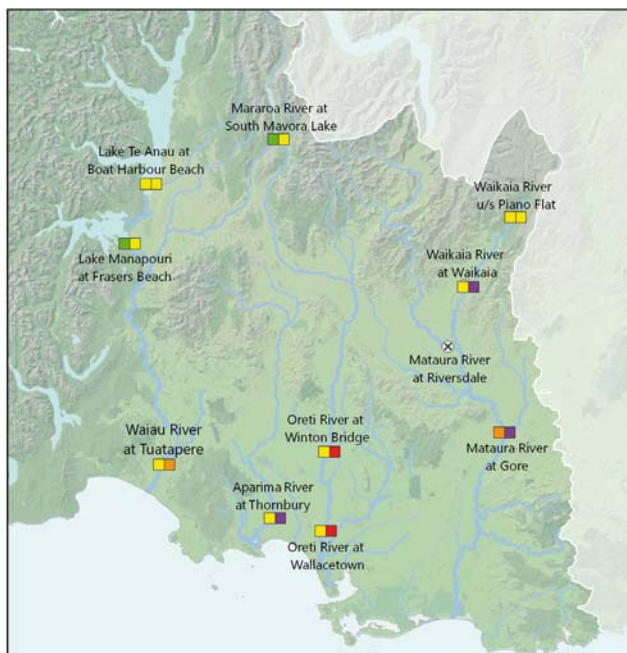
even during periods of low flow in stable weather without heavy rainfall. This poses the greatest health risk to the public because that is when contact recreation is most likely.

Waikaia River at Waikaia

The Waikaia River at Waikaia has the second highest median of 310 *E. coli* per 100ml. Fewer than half of the national guideline breaches related to a high rainfall or increased flow: 40% in 2008/09 and 43% over the last ten years. This suggests the site also has high background faecal contamination even during periods of low flow, settled weather and low rainfall. The site drains a highly developed catchment that has seen large increases in agricultural intensity, with increasing sheep, beef, deer and dairying stock density. Environment Southland has begun investigations in the Waikaia Catchment to look into the issues. ■

Freshwater Bathing Sites

Freshwater bathing sites percentage breaches of the national guidelines (550 *E. coli* per 100ml) and water plan standards (130 *E. coli* per 100ml) over the whole data period 1999-2009



- ⊗ Not enough data
- National Guidelines (left side)**
- Percentage Breaches 1999-2009**
- 0%
- 1-25%
- 26-50%
- 51-75%
- 76-100%
- Water Plan Guidelines (right side)**
- Percentage Breaches 1999-2009**
- 0%
- 1-25%
- 26-50%
- 51-75%
- 76-100%

Is it safe to drink our water?

In Southland, our drinking water comes from three different sources: rainfall, surface water and groundwater. The source we use depends on where we live and what is available there.

In Invercargill and Riverton, drinking water comes from the nearby rivers, the Oreti and Aparima. This is treated before it is piped into households.

Almost all other major public reticulated supplies in Southland use groundwater sources. These supply 20,000 residents in Te Anau, Winton, Gore, Balfour-Lumsden, Mossburn, Tuatapere, Milford Sound, Edendale-Wyndham and Otautau (and Southland District Council is developing a similar scheme for Riversdale). The supplies are largely untreated.

Outside the piped water schemes, around 50% of rural properties use groundwater for domestic and stock drinking supply. Overall, we assume about one third of Southland residents use groundwater for drinking.

Groundwater is also used to supply dairy sheds and industries with potable water. In 2010 Environment Southland issued approximately 670 resource consents for dairy supplies sourced from groundwater. Food processing facilities also use groundwater; the largest, the Fonterra Co-operative dairy plant at Edendale, uses up to 13,000 cubic metres per day (13,000,000 litres) when at full production.

Our monitoring has revealed two potential health issues with Southland's groundwater quality.

One, faecal contamination (measured using the presence of the bacteria *E. coli*), can be easily reduced or treated for.

The other is nitrate contamination,

which poses a much greater risk to human health.

Key issues in our drinking water

E. coli

Our monitoring of groundwater quality for drinking supply shows that *E. coli* is widespread – this is a significant issue affecting whether groundwater is suitable for potable supply in the Southland region.

In 2009 *E. coli* was present at 22% of sampled groundwater bores. This high level of contamination represents a significant risk to human health.

However, in most cases, the contamination is a localised issue, which can be significantly reduced by better protection of wellheads, and better placement of wells (eg ensuring bores are located away from potential contamination sources such as septic tanks, ofal pits, livestock etc).

The overall percentage of groundwater sites breaching the drinking water standards for *E. coli* levels have reduced since 2001: dropping from 55% of sites sampled

in 2003, to 22% of sites in 2009.

Nitrate

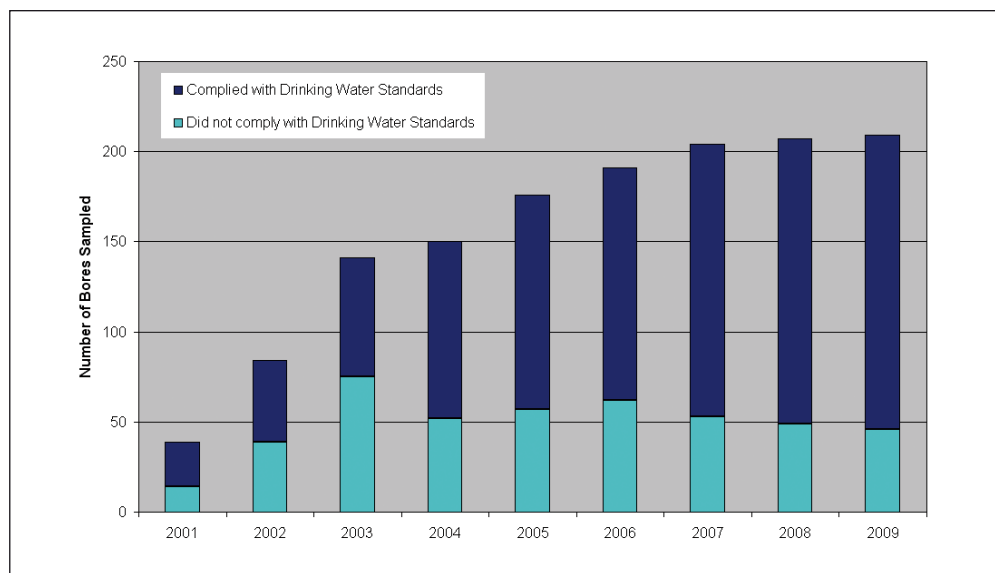
Nitrate contamination of Southland groundwater is also high, with 7% of bores exceeding the maximum acceptable value of the national drinking water standards.

High nitrate concentrations can be dangerous to human health if the water is used as drinking supply. It can also affect stock health as well as having considerable consequence for freshwater and marine ecosystems that form the wider context for our community's health.

Historical groundwater quality monitoring has identified a number of areas in the Southland region where groundwater nitrate concentrations are elevated compared to the drinking water standard, ie higher than 50% of the maximum acceptable value (MAV).

These areas (colloquially termed 'nitrate hotspots') are generally restricted in the area they cover and appear to reflect the cumulative effect of current and historical land use in particular environmental settings. ■

Compliance with Drinking Water Standards





STATE OF THE ENVIRONMENT

Is it safe to gather and consume kai from our waters?

Hunting and gathering food is part of the Southland lifestyle.

For Maori, mahinga kai (gathering food and resources) is a culturally defining practice which connects mana whenua with their ancestors, and future generations.

Non-Maori Southlanders also have important traditions associated with gathering kai from our waterways, eg generations going to the same area for the opening of the trout fishing season, or duck shooting opening weekend, and to established whitebait stands.

The water quality in the places where we gather this kai is central to the safety of these practices.

We have begun collecting information about what wild food is gathered in our region, and the preliminary results of this mahinga kai survey (carried out by Te Ao Marama Inc) show the extent of species that are being harvested in Southland waters, as well as highlighting the barriers to harvesting and the perceived health risks by those gathering.

However, even with more data about where, when and how kai is harvested, our current monitoring cannot adequately answer the overall question: 'is it safe?'

We can report on faecal bacteria in waters around the shellfish gathering sites we monitor. However, the food safety value of this information is limited.

We measure faecal coliforms monthly in eight areas where tuangi/cockles and kutai/mussels are gathered recreationally. In 2008/09, five of eight monitored shellfish sites breached the national microbiological water quality guidelines for waters where filter-feeding shellfish are gathered recreationally.

We have enough of a monitoring

record to show trends in faecal contamination.

Of the eight monitored shellfish gathering sites, four show a decrease in faecal contamination in the waters surrounding the shellfish beds. These sites are New River Estuary at Whalers Bay, Bluff Harbour at Ocean Beach, Colac Bay at Bungalow Hill Road, and Monkey Island at Frenzt Road.

The four remaining sites showed no detectable change in faecal contamination levels. This lack of change in itself is a concern, because three of these four sites

(Jacobs River Estuary, Toetoes Harbour and New River Estuary at Mokomoko Inlet) have high median faecal bacteria levels, and a high level of non-compliance with the national guidelines.

The relationship between freshwater faecal contamination and faecal contamination of shellfish flesh is poorly understood. An investigation of shellfish at sites at Riverton/Aparima last summer showed that compliance with the water standard does not necessarily mean the shellfish are within the guideline for safe consumption. ■

A lifelong perspective on water

Michael Skerrett is a good man to ask about the changes in Southland's waterways. He's been in and around the rivers and coast since he was little, going out with his Dad to fish and collect shellfish.

Michael has noticed many improvements in water quality over the years. "A lot of things used to happen that don't anymore. Industries would dump their waste directly into the rivers, there were direct discharges of sewage into waterways."

Conversely, other aspects have deteriorated. "Mahinga kai (customary food gathering) is a real concern. We need to restore our water, make it suitable to take kai from. There are some places now that we don't go to because of the water."

Michael feels that the many changes in the land and land use are out-pacing the work being done to address the issues.

"When the Resource Management Act was created no-one foresaw the

change in land use, the change in pressures."

"There is a lot of concern out there about dairying, but I think 90% of dairy farmers are good performers. Some are poor performers and there are issues that need addressing."



Michael has also seen many changes to the landscape. Drainage, straightening and stopbanking have limited many rivers' ability to meander naturally. "There wouldn't be many sites that would be the same. Thousands of km of fish habitats have been lost through straightening, digging out, tiling, draining tributaries, that sort of

thing."

Michael thinks the SOE report is very important. "It lets us know where we are now, and allows us to feed into future planning and management so we can find practical, sustainable solutions. Ones that will work and get the results we need." ■



National environmental forum inspires students to take action at home

Trawling through rubbish bins isn't a task for the faint hearted, but it's one that Southland Girls' High School student Nina Shields is keen to tackle following her attendance at the Sir Peter Blake Environment Forum in Wellington recently.

Nina was one of three Southland students selected from 16 applicants to attend the forum in the last school holidays and she returned inspired to be a positive influence for change at her school.

As a first step, she intends to work with fellow Girls' High environment committee students to audit the school's waste and see how much could be recycled, reused or composted and so reduce the amount that is sent to landfill.

"After visiting a recycling centre and landfill in Wellington I am keen to find out where our rubbish actually goes after we take it to the refuse station," Nina says.

Chris Kennedy from James Hargest College also attended the forum and returned keen to do more. "I came back buzzing with inspiration and I've been working hard on increasing our environmental group's involvement in the school," Chris says.

"We should be holding a range of events for Keep New Zealand Beautiful Week."

Nina says that the forum exposed her to new ways of thinking, and showed that it can be relatively easy to make changes that will help the environment.

"It got me constantly thinking about the environmental impact of what I was doing. There were simple things such as taking the stairs instead of the lift, taking short showers,

not getting our room serviced every day, so the towels weren't washed unnecessarily.

"It is simple things like these that I have brought back with me, simple things that I can apply to my everyday life."

Nina also learned that giving people easy options makes them more likely to adopt environmentally-friendly habits.

"Humans are lazy so to become an eco-friendly business or community you must make the 'eco-friendly' option easier and make the wrong option harder. So with all the ideas I'm taking back to school and home with me I am trying to think of how

we can make this the easy option, which isn't always easy to do, but it will pay off in the end."

As for Chris, he predicted his experiences at the Sir Peter Blake Environment Forum would influence him for years.

"It's shown me that there are people out there willing to take action on the issues I'm passionate about, and that this action can often yield great results.

"I flew to Wellington with opinions and ideas – now I have the drive to make them reality."

Southland Boys' High School student Aaron Loader also attended the forum. ■



Nina Shields (left) and friend Kate Kensington prepare to check the contents of a Southland Girls' High School rubbish bin, to see how much of the school's daily waste could be composted, recycled or reused.



AIR QUALITY

Home fires the major air quality problem in Southland

Smog – that choking, smelly combination of smoke and fog – is a regular feature of Southland winters.

Admittedly, the air quality here is nothing like as bad as the infamous “Great Smog” of London in 1952, which hung over the English capital for five days and nights, and caused an estimated 4000 deaths and 100,000 illnesses. But the proven link between poor air quality and respiratory illness makes Environment Southland’s Environmental Information Manager, John Prince, passionate about the need to reduce smoke emissions in our region.

The Great Smog of 1952 led directly to the Clean Air Act of 1956, while in Southland a review of the Regional Air Plan is on the Council’s “to do” list.

In the meantime, Environment Southland’s scientists are monitoring air quality continuously in Invercargill and Gore, with winter monitoring also underway in Winton and Wallacetown and a new site about to become operational in Te Anau.

The results are less than impressive, John says.

In the first six weeks of monitoring this winter, Invercargill’s air quality has already breached the national environmental standards three times, while Gore’s air breached in mid June.

Householders are responsible for almost all the air quality problems in Southland communities. In Invercargill, smoke from house chimneys and backyard burning emits 96% of the PM₁₀ particles that cause poor air quality, with just 4% caused by vehicle exhausts and industry. In Gore, the ratio is slightly less – about 90% of emissions are from home chimneys and backyard burning.



Invercargill was cloaked in smoke during a run of calm, frosty weather in early June. The culprits were houses with smoking fires.

Weather has a major influence on air quality in Southland. Wind disperses smoke whereas frosty, calm conditions trap it in inversion layers – that’s when you see a grey haze hanging over the streets and the air tastes of sulphurous smoke.

Ironically, since Solid Energy

stopped making high quality Ohai coal available for domestic sale on the grounds of improving air quality, consumers have had to opt for alternatives that – on the whole – may have worsened the quality of smoke coming out of their chimneys. ■

Simple tips to improve air quality

There are several simple steps that everyone can take to improve air quality in Southland.

- Only burn dry firewood
- Never use rubbish to start or stoke a fire
- Burn your fire hot and let it go out at night, rather than dampening it down, because smouldering fires cause more smoke
- Have your chimney cleaned every year
- If you’re changing from an open fire to an enclosed burner, make sure that it complies with clean air standards – not all multi-fuel burners on the market comply
- Consider changing from an open fire or burner to a “clean heat” type of heating such as a heat pump or a flued gas heater
- Don’t burn hedge clippings and other garden waste in your backyard – either compost it or take it to a greenwaste disposal site



National air quality standards under review

The government has announced a review of the National Environmental Standards for air, which may ease some of the restrictions that are currently due to come into effect in 2013.

Air quality is measured by the amount of PM₁₀ particles in the air. The current standard requires PM₁₀ levels to be less than 50 µg per cubic metre of air, averaged over a 24-hour period. Anything higher than 50 µg is a breach of the standards and from September 2013 communities will only be allowed one breach in their airshed each year before councils are obliged to stop issuing new consents for air discharges from industry.

In Southland, this would mean that industry – which is responsible for only a small fraction of air pollution – would be penalised for emissions from home chimneys.

Instead, the Government has issued a discussion document with options to relax the current standards. This would give more time for councils to reduce PM₁₀ levels in their regions



Smoking chimneys in Gore create poor air quality.

and promote a “local solution to local problems” approach but with increased government oversight.

This could include allowing up to three breaches of the PM₁₀ levels each year, extending the deadline to 2018 and making exceptions

for breaches caused by structural and wild fires, fireworks and cultural events and other one-off or accidental emissions and gales.

The restrictions on issuing new consents for industrial air emissions might also be relaxed. ■

Happy, relaxed, safe – that’s our lot!

Southlanders tend to see ourselves as happier, more relaxed and safer than the rest of the country, a new survey has found.

During May, over 1500 Southlanders were asked about their quality of life in a telephone survey commissioned by Our Way Southland, which carries out joint community outcomes projects on behalf of Environment Southland, the Invercargill City Council, Southland and Gore District Councils.

The interim results suggest that

Southlanders generally enjoy a higher quality of life than the general New Zealand population.

Respondents reported themselves happier, less-stressed, and more satisfied with their work-life balance and leisure time than the national average. The survey also noted Southlanders’ strong senses of community and safety, and pride in their local areas.

Dr Aaron Fox, the regional coordinator for Our Way Southland, said that the findings of the survey would provide

invaluable benchmarks against which progress made towards achieving Southland’s community outcomes can be measured.

The full report of the survey will be available later this year. ■



Trial and error finally pays off in biofight against thistles



Environment Southland biocontrol contractor Jesse Bythell is passionate about her bugs. She and fellow members of the Californian Thistle Action Group have long been searching for an answer to New Zealand's growing thistle problem.

The Group has funded research into many biocontrol agents for trialling against our various types of thistles, but only a handful have managed to show any promise. Jesse says that finally, after many years of trial and error, the Green Thistle Beetle is looking like it could be a successful addition to the biocontrol family.

This beetle was found almost by accident. "Landcare Research was looking to bring in a weevil and found the Green Thistle Beetle while it was surveying.

When staff began rearing the beetles, they found they were much easier to handle and breed, and were also more effective in damaging the thistles," Jesse says.

Several other thistle control agents

reared and tested by Landcare Research have not been as successful. "One even made the thistles more palatable to stock, which meant that they got rid of the thistles, but also ate the bugs."

"The great thing about this beetle is that it will eat Nodding, Californian and Scotch Thistles which are common in Southland," Jesse says. "Plus, they breed and become established quite quickly."

Most other biocontrol agents can take over a year to establish, but it is expected that the Green Thistle Beetle will establish at a site within six months.

"This is great for us 'cos we can actually see results quite quickly too. Normally we would be waiting three or four years or more before we can see any damage done by the bugs."

Jesse and biocontrol colleague Peter Ayson plan to rear new colonies of the beetle this spring. They will be taken from one of the already

established sites in Southland and reared in on-ground cages.

"This way, we can do a complete count and see how many there are, how many can be moved to a new site and how fast they reproduce."

From there, they will be able to make more releases of the beetle to different locations around Southland, testing out their effectiveness on different land-use types.

Before the cages though, the hardest job is yet to be done and Jesse has found herself nominated for a task which she isn't so enthusiastic about. She has to sex the beetles to find out how many males and females are put in each cage.

The job is much harder than it sounds, with both the male and female of this beetle being very similar in appearance. "The ratio has to be right so that the colony establishes quickly, but I'm still not sure how I got this job," Jesse laughs. ■



Jesse Blythell uses a leaf sucker to gather green thistle beetles.



New emergency management team on the job

Southland's new civil defence and emergency management team is working to ensure that any response to a major emergency anywhere in Southland will be better resourced and coordinated than was possible in the past.

Manager Neil Cruickshank and Advisors Sandra Miller and Craig Sinclair are the hub of the region's emergency management system, based in Invercargill and servicing the whole of Southland.

Emergency Management Southland now acts on behalf of all three local authorities (Invercargill City, Gore and Southland District Councils) and Environment Southland to provide one integrated service where previously there were four separate civil defence organisations.

The result, Neil says, is better planning and cooperation, and a

much closer relationship with the emergency services, who no longer have to try and liaise with four separate councils.

There will also be better support for local civil defence volunteers, who remain an important part of the emergency response in each community.

"The emphasis is still very much on communities managing local emergencies themselves but under the new structure there will be a lot more support available when it's



From left: Neil Cruickshank, Sandra Miller and Craig Sinclair. Neil was previously Coordinator of the Southland Civil Defence Emergency Management Group, Sandra was the Southland District Health Board's emergency planner and Craig was a sergeant in the NZ Police at Gore.

needed," Neil says.

"We will be building up resources and volunteer networks at a regional level so that they can be deployed anywhere, if a particular community needs more support." ■



Make a plan so you're ready to get thru

Disaster can strike quickly and without warning. It can force you to evacuate your neighbourhood or confine you to your home. Have you ever thought about what you would do if basic services, such as water, electricity or telephones were cut off?

Emergency services will be on the scene after a disaster, but in the immediate aftermath of an event they will not be able to get help to everyone as quickly as needed.

This is when individuals and communities are at their most vulnerable, so it's important for everyone to plan to be able to look after themselves for at least three days.

Remember to include pets/livestock in your plan.

You could be separated from other members of your household during a disaster without any means of contacting each other as phone services are likely to be affected.

Having a plan will help you work through where you will meet, how children will get home from school or sport etc.

Families can and do cope better with emergencies by preparing in advance and working together as a team.

Knowing what to do beforehand is your best protection so make a household plan.

You'll find useful advice on the Emergency Management Southland website www.civildefence.co.nz and also www.getthru.govt.nz. ■



Sandra Miller and Craig Sinclair with items that every family should have to be ready to cope in an emergency.

for now and your future



School and business contribute to help the environment

The Invercargill Honda dealership and Year 9 pupils from Aurora College have combined their funding and efforts to contribute to a major planting project along a new stretch of the Kingswell Creek Walkway.

Environment Southland began the planting programme earlier this year with the help of funding from the Honda Tree Fund. Through the national Honda Tree Fund programme, Honda New Zealand funds the planting of 10 native trees for every new Honda sold. Local Honda dealerships then fund the planting of a further three trees. Plants are distributed within the regions where the funds are accumulated.

Holding mufti days and selling ice creams last year, a class of Year 9 pupils at Aurora College in Invercargill also contributed to this project. After spending time learning about water quality at school, the pupils earned around \$300.00 that they wanted to put towards a waterway project in the city.

Environment Southland's Environmental Education Officer Nikki Tarbutt said it was a great way for students to learn about their local waterways and become connected with a stream in their area. "The students learned about water quality at school and now they are able to make a difference to a stream in their own backyard and see the plants grow."

Funds from the Honda Tree Fund and donations such as the one from Aurora College are used to purchase trees that assist various projects throughout Southland such as improving biodiversity and water quality of local streams, bank stability and beautification of streams and walkways.

"The ongoing partnership between the Honda Tree Fund and Environment Southland has allowed several projects to go ahead that would otherwise have stalled for lack of funding," Environment Southland Land Sustainability Officer Jim Risk said.



An Aurora College student prepares to plant a tree on the Kingswell walkway.

Catchment Engineering Assistant Robin Wilson is sure that the Kingswell Creek Walkway will be well used. "In the long term, this walkway will create a circuit of the city linking with the Waihopai Dam." ■

About this newsletter

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 newsletter, as well as your suggestions for topics you would like to read about in future issues.

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The photograph on the cover of this issue was taken on the Waipohatu Waterfall Track in the Catlins.