

Envirosouth

Environment Southland News

April 2011



**Issue
23**

**Draft Annual Plan Summary
Waituna: What's all the fuss about?**

**Smokey chimneys cause poor air quality
Environment Awards now open**





From the Chair

It is the time of year again where the Council puts out our draft annual plan for consultation. What is proposed in the way of new or continued work programmes and initiatives is based on what is already in our Long Term Plan written in 2009, but changed and modified as necessary as a result of subsequent events and Councillors' input

Top of our mind at the moment is the inter-agency response that our Council is leading due to the poor health of the Waituna Lagoon. There are a number of short, intermediate and long term interventions and solutions being proposed to halt the rapidly declining state of the lagoon and this will impact on our programmes and consequently your rates.

There has been a really positive and widespread response from Southlanders in support of saving Waituna. Staff have been directed to shift resources wherever possible from other activities into various immediate initiatives in the Waituna catchment.

If Waituna is going to be restored to its former glory, a long term commitment from the Southland community is needed. This is especially so from landowners in the Waituna catchment as the suite of responses proposed will have most impact on them and their businesses.

We propose to employ an additional planner to lead the policy initiative around the cumulative effects of land use intensification. Initially this work will focus on the Waituna catchment but the outcomes will also support possible policy changes for other sensitive catchments throughout Southland. We propose to pay for this position from the dairy differential on the general rate.

Please take the time to read the summary of our draft plan, included in this newsletter. The full version of the draft plan is available on our website and in hard copy.

I value the feedback we receive each year from Southlanders who make the effort and find the time to make a submission.



Chairman Ali Timms.

The New Zealand and Southland economy is still in a poor state and the Canterbury earthquake will vacuum up government funding at least until the end of this decade. This is our "best guess" at the programmes necessary to carry out our core business. I'm sure you will let us know if you think we've got it wrong!

Ali Timms
Chairman
Eastern-Dome Constituency
(03) 248 7222



Reminder to boaties: Wearing life jackets and identifying your boat is mandatory

Boaties who aim to have a last summer fling over Easter – weather permitting of course - need to be vigilant about boat safety and adhere to boating bylaws.

The Easter break is traditionally one of the last busy boating holidays at many Southland lakes and waterways before boats are packed away over winter.

Harbourmaster Kevin O'Sullivan says he'd like to remind boaties about the regional bylaws that were introduced in July 2009.

"It's a reminder that lifejackets are required to be worn. The uptake is pretty good here really," says Kevin.

Also in the bylaw is that boats must have an identifying mark, which can either be a name, a number, or a trailer registration number. It must be at least 50mm high. Kevin says he is still coming across boats with no name or number.

The identification is important because if something goes wrong, police or authorities are more easily able to trace the owner. Many boat clubs also keep

records of boats, and while there is no formal boating registration system, having boat identification allows faster methods for finding the owner.

"There are always a hard core who think what we are doing is revenue gathering. It's not. The identifying name or number is for if things go wrong," says Kevin.

Environment Southland staff will be at Southern lakes including Te Anau and Manapouri over Easter, handing out pamphlets and reminding boaties of the regulations.

Smoking chimneys cause poor air quality



As the days and nights get cooler, Southlanders crank up their fires and heap on the coal to keep warm. Unfortunately, as the chimneys start pouring smoke, our air quality suffers and so in turn does our health.

Last winter Invercargill exceeded air quality national guidelines 35 times. That's too high, says Environmental Information Manager John Prince, as the standards, in place for health and environmental protection, will only allow for levels to be breached three times by 2016.

What is being measured is the amount of minuscule particles, one-fifth the diameter of a piece of hair. These are called PM₁₀, which stands for particulate matter the size of 10 microns. More than 90 per cent of PM₁₀ comes from burning solid fuel – wood and coal – for home heating.

When Environment Southland began comparative monitoring in different parts of Invercargill last year, South Invercargill was found to have poorer air quality than suburbs in the North of the city. Air quality was monitored at Waikiwi, Glengarry and Strathern. Because of the findings, monitoring will continue at the Pomona St site this winter.

John Prince says the consequences of high levels of PM₁₀ are ongoing health problems, in particular for the very young, the elderly and those who suffer from respiratory illnesses. The Ministry for the Environment estimates 1100 people die prematurely from air pollution in urban areas every year. John says poor health as a result of poor air quality also means increased visits to doctors and hospitals, and more time off work and school, which impacts on the whole community.

Environment Southland uses two different methods to measure PM₁₀.

The High Vol method, which is nationally recognized as the "reference standard" for providing accurate data, records data every second day during the winter and is manually operated.

The BAM method records continuously and is automated but the trial in Invercargill showed the instrument had under-read PM₁₀ levels by 28 per cent.

John says once the BAM results were adjusted to take account of the under-reading, Invercargill's air quality was found to have exceeded MFE national guidelines 35 times in four months.

Southland's air quality is influenced by calm, frosty nights which create an inversion layer, trapping smoke. In a windy winter, PM₁₀ readings would generally be lower. But the underlying issues of cold temperatures, older housing stock and easy access to low-grade coal remain significant influences on Invercargill's air quality.

So what can be done?

Householders can make sure they burn clean dry wood in smaller hotter fires; avoid "dampening down" fires at night; make sure chimneys are swept regularly; and work towards a more energy efficient house, improving insulation and installing clean heat appliances such as heat pumps.

John says PM₁₀ levels need to be brought under control although he doesn't expect significant reductions in air quality breaches to happen this year.

"What other councils have done is phase out higher polluting multi-fuel burners and encouraged the use of heat pumps and pellet or gas fires. A lot of these you can get a grant towards with the Government's warm homes initiatives."

Contact the Southland Warm Homes Trust or Energy Smart for details.

Environment Southland is also looking at changes to its air plan and the first step towards that was a council workshop in April focusing on Southland's air quality problem.

In 2009 the Council commissioned a report on air quality management which recommended banning coal, banning outdoor and open fires and introducing mandatory replacement of non-compliant solid-fuel burners as the most effective way to reduce PM₁₀ levels, which will be considered as part of the review of the Air Plan.



Smoke from home chimneys blankets Invercargill's eastern suburbs on a fine, frosty morning.



Draft Annual Plan Summary

Summary of Information

The following pages contain the summary of the Draft Annual Plan 2011-12 as required by the Local Government Act. This is the summary of the information contained in the statement of proposal to adopt Environment Southland's 2011-12 Draft Annual Plan. The summary of information is required by and confirms with S89 of the Act. Unless indicated otherwise, all figures are exclusive of GST.

We invite you to make a submission on any part of the Draft Annual Plan. We must receive your submission by 4.30pm on Monday 16 May 2011.

Introduction

As a local authority, we often struggle to get a broad range of people to take an interest in what we do, and particularly to make submissions on our many plans, policies and strategies. We value the interaction we have with those who give their time to participate in our consultation and encourage continued and new involvement. The more people who give us feedback, the better our policies and decisions will reflect what the community wants and expects from us.

This Draft Annual Plan sets out the programmes and activities we are proposing to undertake over the next 12 months, and the ways in which we propose to pay for them. It reflects Year 3 of the 10-year Long-Term Council Community Plan adopted in 2009, with changes in response to evolving and emerging issues, of which the Waituna Lagoon is but one.

The following pages summarise the major issues and initiatives in the Draft Annual Plan for 2011-12. It is an overview: you will find more detailed information in the full document, which is freely available to you. Download it from www.es.govt.nz or if you would like your own copy just call our staff on 0800 76 88 45 or e-mail service@es.govt.nz.

Waituna action a major project

News that the Waituna Lagoon is in poor health has put Environment Southland centre stage as we lead an urgent inter-agency response to try and save this unique coastal ecosystem from becoming a slimy pond.

Discovering the current state of the lagoon has been a wakeup call for many. Deteriorating water quality, increasing nutrient build up and sedimentation and the losing battle that seagrass is currently waging against algal slime in the lagoon have become talking points in a wider public debate about environmental management and the economic benefits of intensified land use.

It's tempting to point at what seem to be obvious causes and to grasp for apparently easy solutions. But these are not new issues and their solutions are not simple.

Water quality everywhere is impacted by many human activities, including urban stormwater, industrial discharges and run-off from farming, while non-human influences also have to be considered. Southland's prosperity has been largely built on farming over 150 years, and it is neither feasible nor necessary to impose blanket restrictions on agricultural land use.

But the fragile state of the Waituna Lagoon is stark proof that the current land use regime and the suite of conditions on some consented activities have been inadequate. Our challenge is to set and enforce environmental standards that will safeguard Southland's natural resources while enabling their ongoing use. We have work underway and need to make genuine progress quickly through



Bachelotia algae is increasing in the Waituna Lagoon.

Draft Annual Plan Summary



realistic, open-minded, forward looking and unselfish sharing of knowledge and experience by all of the stakeholders.

We acknowledge the input the farming industry has made to the development of the Discharge Plan in recent times, helping us to form innovative and practical solutions to difficult issues. We will need that kind of innovation from the combined community if efforts to address problems in Waituna are to be successful.

When our Draft Annual Plan for the coming financial year was prepared, a Waituna Lagoon restoration project had not been fully scoped or costed but this work is proceeding urgently. Funding will be included when we adopt the final Annual Plan. We expect our share of funding will come largely from the carry-over of unspent funds from the land sustainability rate and the diversion of staff time from other projects. However, the scoping process will involve stakeholders in a consultative process which will parallel that of this plan.

We also propose to contract an additional senior planner who will lead the policy and planning response required to address cumulative effects given the Waituna issues and their implications for other sensitive catchments. We propose to fund this position from the dairy differential rate. The Long-term plan provided for a second land sustainability officer to work in the Waituna Catchment, to be funded from the land sustainability rate, and that position has been included for 2011-12.

How do you believe that the Waituna Lagoon restoration project should be paid for and how extensive should it be? If this is an important issue for you, please let us know your views by making a submission. We must receive your submission by 4.30pm on Monday 16 May 2011.

Biosecurity

Possum control continues to be one of our Biosecurity division's major tasks as we put greater effort into the Possum Control Area programmes which support landowners to kill these pest animals on their own properties. We propose to spend an additional \$45,400 on Possum Control Areas this year.

We also continue to fund the Animal Health Board's Bovine Tb control activities, although the aims of our two organisation's activities are diverging. The AHB is changing its focus from killing possums because Southland's beef cattle, dairy and deer herds have been declared Tb-free. The AHB is now concentrating on "proof of freedom" from Tb in feral animals by conducting intense monitoring, while our primary aim under the Regional Pest Management Strategy is the control of possums. We are considering whether in next year's Long-term Plan we propose levying a separate rate based on land value, to provide the AHB's funding. As a transitional measure, we propose to pay Southland's contribution of \$409,000 to the Animal Health Board from reserves this year.

The marine pest plant undaria continues to be of concern in Fiordland. The discovery of undaria at one site

illustrates how vulnerable Fiordland is to introduced marine pests.

We propose to pay for the ongoing undaria response, and any other marine biosecurity work, from the Marine Fee rather than rates this year, with an increase in funding of up to \$63,000 on the current year.

The sum of \$67,000 has been allocated to begin the review of the Regional Pest Management Strategy, while our routine biosecurity activities continue at existing levels. This includes enforcing compliance with the rules governing pest plants such as gorse and broom in urban areas, and nodding thistle and ragwort in rural areas. We also continue to seek out and eradicate target plants such as Old Man's Beard.

Environment Southland also actively supports the biological control of weeds and we propose to continue our involvement in the managed release of a parasitic wasp to control the Clover Root Weevil incursion in Eastern Southland.

If biosecurity issues such as possum control, AHB funding and marine pest incursions are important to you, please make a submission so we can take your views into account when we finalise our work programmes for the coming year.



Biosecurity Officer Andrew Kirk and landowner John Cowie discuss possum control on John's farm.



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One heavily smoking chimney can affect air quality in the whole neighbourhood.

Air Quality

In the last three years since we consulted the public on our Long-term Council Community Plan, we have been monitoring air quality much more closely and effectively in Southland.

The results from the winter of 2010 showed that air quality in Invercargill and Gore falls well short of the national air quality standards that the Government has adopted. These national standards require a significant improvement in those two “airsheds” within a reasonably short space of time. Invercargill’s air pollution levels exceeded the national standards 35 times last winter. By 2016 the permitted number will be just three per year, and by 2020 there can only be one a year. Those timelines present a major challenge because in Southland, poor air quality has largely been linked to smoke from home chimneys. This will require a widespread change in

community behaviour with regard to choice of home heating.

The time constraints imposed by the Government mean that Environment Southland has to increase our efforts in several areas, starting this year. We propose to investigate and then implement tougher regulation and control on domestic burners and burning. Once that is done, there will be additional monitoring and an educational awareness and incentives programme.

For this year, we have increased our air quality budget by \$50,000 to provide extra technical advice to our planning division. We also propose to continue our involvement with the Southland Warm Homes Trust.

If air quality is an important issue for you, please let us know your views by making a submission on this aspect of the Draft Annual Plan.

Catchment Management

Much of Southland’s most productive farmland and most of our population lives in a floodplain and relies on flood protection schemes built between 20 and 60 years ago.

Rainfall patterns can change; land use is intensifying; new housing and industrial subdivisions are planned or built; and meanwhile, memories of historic floods fade.

Environment Southland maintains the region’s flood protection schemes and has begun a comprehensive review of each one to assess whether the physical works – stopbanks, dams, culverts etc – still provide an acceptable level of protection for the community.

In 2011-12, which is Year 3 of the review, we will be concentrating on surveying the stopbanks etc in the rural parts of the Aparima and Mataura catchments. Much of the work will be done in conjunction with the gravel monitoring programme, and together the total expenditure is proposed to be \$230,000, funded from a combination of separate (catchment) rates, general funds and gravel monitoring fees.

If the proposed catchment works programme and flood protection scheme review are significant issues for you, please make a submission so we can take your views into account when the Annual Plan is finalised.

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Compliance

Increasing compliance workloads are the natural consequence of development and growth in Southland's farms and industries. Every consent that is granted to discharge effluent to land or smokestack emissions to the air; or to take water from rivers or underground comes with conditions that our staff monitor to encourage and enforce compliance. Consents for existing activities also often have new consent conditions imposed when the consents are renewed, and they may also require additional monitoring.

We signalled in the Long-term Council Community Plan three years ago that we would have to hire more compliance staff and this year we propose to employ an additional three people in the Compliance Division. One will work exclusively in pollution prevention, concentrating on urban industrial pollution. We will continue our strategy of working through industry bodies to reach their members, then providing help to individual businesses so they can improve their practices and reduce pollution. We will also be putting more resources into identifying contaminated land, investigating and documenting types of contaminants and working with landowners to establish the previous uses of contaminated land.

Under the Council's revenue and financing policy, costs involved with some of our compliance activities are to be recovered from resource users. Over the last year it has become apparent that the current level of charges has not been recovering the costs they were intended to, and the general ratepayer has funded the activities instead. Consequently we have increased the level of some charges in this year's plan.

Do you have a strong view on our compliance activities and how they should be paid for? If this is an important issue for you, please make a submission so we can take your opinion into account.



Environmental Technical Officer Roger Hodson collects water samples from the Waihopai River.

Other proposed activities

Water quality

For the past two years we have been compiling a comprehensive assessment of the state of Southland's freshwater resources. The last three of the four publications that together make up the State of the Environment Report "Southland Water 2010" will be released in August. We expect that their findings on the quality and availability of water in our region will lead to calls for more extensive scientific monitoring and analysis of our waterways and aquifers.

We are proposing to employ a junior scientist to join our water resources team, and also a data management officer, who will improve the reliability and integrity of our scientific data.

Environmental Enhancement Fund

We are proposing to establish an environmental enhancement fund, which will be available to groups on a

contestable basis. Funding of \$30,000 has been allocated in this plan, funded from surplus funds.

Business as Usual

We propose to continue with "Business as Usual", including river management and flood protection programmes, groundwater monitoring, environmental education, emergency management and hazard planning, the review of the Regional Policy Statement and the development of the Discharge Plan, and the Living Streams programme. You will find details of all these services and programmes, and more, in the full version of the Draft Annual Plan.

Funding

To fund the programmes in the Draft Annual Plan will require an increase of \$2.4 million in expenditure for 2011-12. Most of this will be funded from increased dividends on our investments (principally our shareholding in South Port NZ), from reserves or funds carried over from the current financial year, and from the Marine Fee paid by the cruise ship industry. If the Draft Annual Plan is adopted in its present form, the total rates collected will increase by \$642,000.

We encourage you to read and consider the programmes outlined here, and to let us know whether you agree or disagree with what we propose by making a submission. You are also welcome to suggest other programmes and activities that you feel we should be undertaking.

Our Council has a well-established tradition of taking heed of the public's views. Last year and in 2009-10 we received a large number of submissions on our proposals and made several significant changes as a result. You can be confident that any comments you make will be carefully considered.



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Prospective Statement of Financial Performance for Year Ended 30 June 2012

2010/11 \$000		2011/12 \$000	LTCCP 2011/12 \$000
	Revenue		
5,306	General Rates	5,657	6,102
4,998	Separate Rates	5,279	5,564
203	Southern Pest Eradication Society Rate	213	198
213	Levies and Contributions	765	174
757	Local Contributions	700	731
666	Rental Income	691	633
4,343	External Recoveries	4,967	4,430
1,800	Investment Income	1,881	1,779
1,657	Dividend from South Port	2,267	1,657
19,943	Total Revenue	22,420	21,268
	Less Cost of Services and Expenses		
8,794	Water	8,933	8,693
6,420	Land	7,690	6,914
2,215	Coast	2,444	2,311
990	Air	1,253	1,069
2,192	Community Representation	2,703	2,144
20,611	Total Expenditure	23,023	21,131
(668)	Net Operating Surplus / (Deficit)	(603)	137

Prospective Statement of Movements in Equity for Year Ended 30 June 2012

69,341	Total Equity At Beginning Of Year	68,673	67,134
(668)	Net Surplus / (Deficit)	(603)	137
(668)	Total Recognised Income & Expenses	(603)	137
68,673	Total Equity At End Of Year	68,070	67,271

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Rating - Draft Budgets 2011/12 compared with 2010/11

Rate	Forecast 2010/11		Forecast 2011/12		Rating Level Changes	
	\$000	\$000	\$000	\$000	\$000	
<i>Targeted Rates</i>						
Catchment	2,554		2,679		125	4.89%
Land Sustainability	745		903		158	21.21%
Sub Total		3,299		3,582		
<i>Biosecurity</i>						
Pest Animal	811		876		65	
Pest Plant	888		821		-67	
Sub Total		1,699		1,697		-0.12%
<i>Total targeted land value based rates</i>		4,998		5,279	281	
General rate UAGC	2,188		2,158		-30	-1.37%
General rate - based on capital value	2,402		2,585		183	7.62%
General rate - dairy differential	249		393		144	57.83%
General rate - capital value rate on dairy properties	467		521		54	11.56%
Sub Total		5,306		5,657		
Total rates for ES needs		10,304		10,936	632	6.13%
Proposed rate collection on behalf of Southern Pest Eradication Society		203		213	10	4.93%
Overall rates proposed		10,507		11,149	642	6.11%

Rating - Draft Budgets 2011/12 compared with 2011/12 in LTCCP

2010/11 Forecast \$000	Rating Forecasts	Annual Plan Forecast 2011/12 \$000	LTCCP Forecast 2011/12 \$000	Rating Level Changes \$000
9,959	Total rates for ES needs	10,936	11,667	-731
203	Rates on behalf of Southern Pest Eradication Society	213	198	15
10,162	Total rates	11,149	11,865	-716
	Rates for ES needs are			
2,554	Catchment	2,679	2,796	-117
745	Land Sustainability	903	926	-23
	Biosecurity			0
811	Pest Animal	876	908	-32
888	Pest Plant	821	934	-113
4,998	Total targeted land value based rates	5,279	5,564	-285
2,188	General rate UAGC	2,158	2,443	-285
2,402	General rate - based on capital value	2,585	2,952	-367
249	General rate - dairy differential	393	264	129
467	General rate - capital value rate on dairy properties	521	444	77
10,304		10,936	11,667	-731
	Increase / (Decrease) on LTCCP			-6.27%
55.40	UAGC	54.00	61.30	-7.30



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Environment Southland proposes to spend \$23,023,000 on our services, activities and programmes in 2011-12, which is an increase of \$2,412,000. Most of that increase will be funded from investment income, the Marine Fee and direct charges. \$642,000 of the additional expenditure is proposed to be funded from rates.

General Rates

If the proposals in our Draft Annual Plan are adopted, we will collect \$2,585,000 in general rates, which is \$183,000 more than in the current financial year and \$367,000 less than we forecast in the 10-year-plan published in 2009. The general rate is charged against all properties.

Dairy Differential Rate

The General Rate, which includes the Dairy Differential Rate, is payable by dairy properties and totals \$914,000. This is \$198,000 greater than the

amount collected in the current year. Part of this increase will fund the employment of a senior planner to develop policy that will address the cumulative effect of land use intensification in the Waituna and other sensitive catchments. The differential rate will also fund land sustainability staff's support for dairy farmers, contribute towards the cost of maintaining stock truck effluent dump stations and contribute to the review of the Discharge Plan.

Uniform Annual Charge

All properties pay the Uniform Annual Charge. This year it will be reduced by \$30,000, meaning that each rating unit is charged \$54.

Biosecurity Rates

The Biosecurity rates, assessed on land value, fund pest plant and pest animal management activities across the region, including our ongoing contribution to the control of wilding

pinus spreading from Mid Dome. This year the Biosecurity Rates will decrease by \$2,000 due to savings in pest plant expenditure. We propose to meet our \$409,000 contribution to the Animal Health Board's Bovine Tb eradication programme from reserves this year.

Land Sustainability Rate

This rate pays for our land sustainability programmes, which include the advisory services we provide to landowners. We propose to increase this rate from \$745,000 to \$903,000, which will fund the expansion of that service.

Catchment Rates

Catchment Rates pay for works programmes approved by the liaison committees in each major river catchment. The change in rate is different in each catchment, reflecting the level of work that each community has asked to be done.

For General Rate					
Select your Territorial Authority	Indicative rates levy estimate	times	The Capital Value of your property	equals	Indicative 2011/2012 Capital Value based General Rate
Southland District	0.00013102				
Gore district	0.00013582				
Invercargill city	0.00013389				
Southland District Dairy	0.00009851				
Gore District Dairy	0.00010212				
Invercargill City Dairy	0.00010067				
Add UAGC					\$54.00
Total General Rate					
For Biosecurity Rate					
Select your Territorial Authority	Indicative rates levy estimate	times	The Capital Value of your property	equals	Indicative 2011/2012 Capital Value based General Rate
Southland District Dairy	0.00011621				
Gore District Dairy	0.00012433				
Invercargill City Dairy	0.00011892				
For Land Sustainability Rate					
Select your Territorial Authority	Indicative rates levy estimate	times	The Capital Value of your property	equals	Indicative 2011/2012 Capital Value based General Rate
Southland District Dairy	0.00006186				
Gore District Dairy	0.00006618				
Invercargill City Dairy	0.00006330				

Councillors' Comments



Ross Cockburn - *Fiordland Constituency* - (03) 249 7082

I'm determined to get all stakeholders around the table to discuss, analyse and move towards an integrated river management system that encompasses common sense along with a whole-province approach. It needs to include the ongoing berm weed control and gravel extraction issues, which I see as paramount. Gravel is a finite resource. Our rivers hold large amounts so with careful management and distribution these should be utilised to the benefit of all. The positive progress that's been made towards the final implementation of the Te Anau Basin amalgamated rating district proves that with proper consultation and process, any goals can be achieved.



Neville Cook - *Invercargill-Rakiura Constituency* - (03) 218 4500

The newly established Civil Defence Emergency Management Centre for Southland is based at Environment Southland on North Road. It's one of the most up-to-date facilities in New Zealand. As we have discovered in the Canterbury earthquakes, a disaster can occur without any warning, so we must be prepared. All of the Southland Councils make a financial contribution to the operation of the centre, but some small additional cost has to be met by Environment Southland. That is built into this year's budgets. Your Councillors endeavour to keep any rate increase to an absolute minimum.



Rowly Currie - *Invercargill-Rakiura Constituency* - (03) 215 6176

Late last year I had my first ever helicopter flight, joining Council staff on an inspection of the Oreti river floodway. Paul Pollard from our catchment division and the pilot were checking the extent of last year's spraying of gorse and broom. I enjoyed the bird's eye view and was impressed by their collective knowledge as they planned this year's spray programme. In mid-March I viewed the Waituna Lagoon from the air. This followed an aerial inspection by our land sustainability and compliance staff, which revealed that intervention would be needed on 45 properties to avoid problems from winter grazing in the coming months. No wonder we are pursuing additional activity in the Waituna catchment. Seeing is believing!



Robert Guyton - *Invercargill-Rakiura Constituency* - (03) 234 8249

Southlanders look to Environment Southland to manage the special place we live in responsibly and intelligently, for the benefit of all. That's not easy, given the conflicting interests and political pressures that exist in a region rich in resources. We councillors are acutely aware of the pressures on Southland's natural resources as well as the needs of all Southlanders, be they country or city folk. There are areas of great concern that need immediate attention. The Waituna Lagoon is one of many and each needs a stronger response than in the past and an effort from all agencies and industries so that we don't lose what we value. Every time the council meets, we strengthen our resolve to make a better job of what we are charged with and do what needs to be done to protect Southland and Southlanders from the wear and tear we all create by living in this environment.



Nicol Horrell - *Western Constituency* - (03) 226 6627

The name "Environment Southland" has encouraged the public to view us solely as an environmental agency. However, Regional Councils are charged with providing sustainable environmental, economic, cultural and social outcomes for the communities we serve, keeping all four areas in balance. Extra expenditure is indicated in the Draft Annual Plan to help us deal with water quality issues, highlighted recently by publicity over the health of the Waituna Lagoon. Any effective initiatives in this area will require consultation and widespread public support. In difficult economic times our Council looks for efficiencies, to "do more with less". I look forward to community feedback on our proposals during the consultative process.





Councillors' Comments



Grant Hubber - *Hokonui Constituency* - (03) 235 2851

One of the issues we've grappled with this year while developing the Draft Annual Plan has been funding for the Animal Health Board's TB programme, which aims to completely eradicate TB from Southland. The new emphasis is not centred on possum control as such but TB itself. Our regional contribution will be funded from reserves this year. Next year we will consider a separate targeted rate for the AHB. This should fit in with our Southland Possum Control Area programme. I feel that having managed to control TB down to a low level, it would be a lost chance not to fund the AHB's new programme.



Peter Jones - *Eastern Dome Constituency* - (03) 208 4667

I am "enlightened" following my first annual plan process which has involved river liaison meetings and many hours of Council workshops to balance the needs of the organisation to do its job against the need to keep costs to a minimum. The opportunity for Southland to become entirely TB free as part of the Animal Health Board programme is fundamental - it requires substantial investment by the Council to fund its share - but the long term benefits far outweigh the costs. I support resource increases in the compliance and land sustainability divisions to ensure impacts from land use changes and intensification meet the standards set by legislation and the Council.



Brian Mason - *Southern Constituency* - (03) 206 6844

There's a fine line between Environmental Management and Sustainability. Both are equally important because if either fails we as a community fail. We're seriously considering air quality, water quality and quantity and environmental pollution and proposing to spend a significant sum this year to establish what's really happening in our streams, groundwater and surface water. Farmers are encouraged to fence off streams and ensure they apply fertilisers to give maximum benefit without environmental pollution. The urban population can contribute by improving how sewage and rubbish are dealt with. Invercargill's air pollution levels often breach national standards and Gore's are also problematic. The rates that we propose reflect the problems we must manage. Without the correct balance between environmental management and sustainability, we'll all suffer.



Marion Miller - *Invercargill-Rakiura Constituency* - (03) 214 3164

It's important to explain the process we follow when preparing Annual Plans. We start with several workshops and look carefully at each area of the council's responsibilities and costs. We take into account changes in public expectation, priorities and changing demands on the region's natural resources and their management. The environmental and economic wellbeing of Southland is uppermost in our minds throughout. This year the strong message from industry, community, government and ratepayers is about the growing environmental impacts of intensive land use across Southland. This Draft Annual Plan incorporates changes and strategies to act on this pressure. We want to know if you agree with this approach and look forward to your submissions.



Jan Riddell - *Invercargill-Rakiura Constituency* - (03) 236 4191

The most important issue for the Council this year, and for some years to come, is the very poor ecological state of the internationally recognised Waituna Lagoon and wetlands. This situation is the result of high nutrient and sediment loads. Resources need to be spent on fine tuning the science associated with nutrient loads originating from intensive land use in the Waituna catchment. This information will guide decision making about the short, medium and long term management of the Lagoon and its tributary ecosystems. This is a significant challenge for the Council.



Maurice Rodway - *Invercargill-Rakiura Constituency* - (03) 213 0900

Our Annual Plan has ambitious goals. They are needed. The sustainability of our businesses and environment is at stake. We have problems because often we fail to understand each other and we don't work together well. We head into the stormy waters of dispute and disagreement. We don't make progress. Most people have similar goals in life. We want safe families, financial security and a clean environment. To achieve these things we must work together to understand the need to make improvements. We must use good science, collaboration and realistic time frames. Our Draft Annual Plan is designed to achieve this.

Waituna: What's all the fuss about?



The Waituna Lagoon is part of the internationally recognised Awarua Wetlands, which became a Ramsar site in 1976. The Waituna Lagoon is one of the best remaining examples of a natural coastal lagoon in New Zealand and is unique in Southland and New Zealand. It is sometimes artificially opened to the sea. It is highly significant to Ngai Tahu, fishermen, hunters and local landowners. The Waituna Lagoon sits at the bottom of a small, intensively farmed catchment.

Environmental monitoring shows that the water quality in the lagoon and the streams that flow into it has deteriorated and the lagoon has high

levels of nutrients. Nutrients refer, particularly to nitrogen and phosphorus, that are needed by plants and animals for growth. Nutrients are essential, but high levels are harmful. The rate of deterioration of the lagoon has increased markedly since 2007 and the results confirm the lagoon is sick. Ruppia, a critical species that the lagoon ecosystem depends on is being stressed, and the lagoon is at imminent risk of flipping.

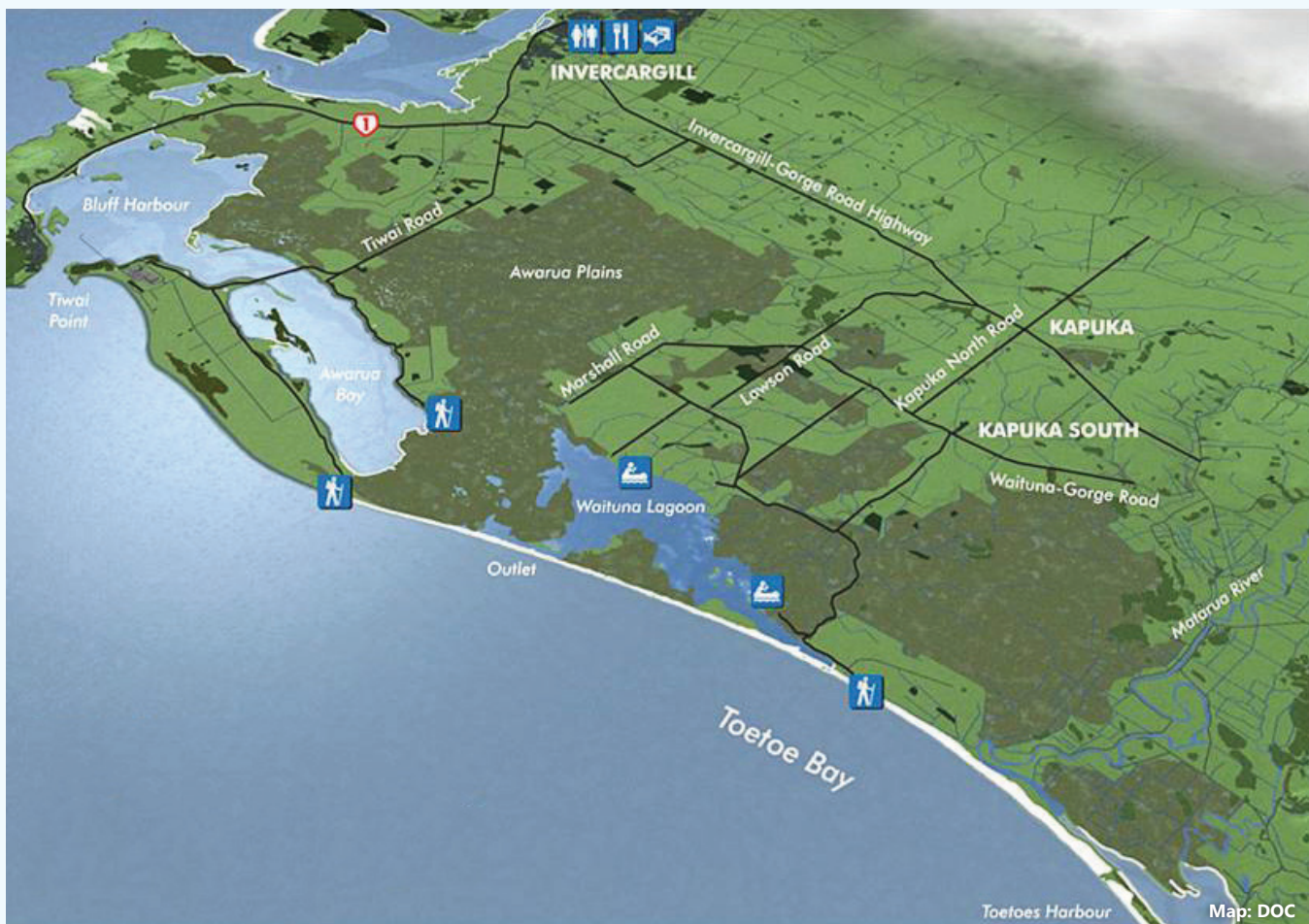
Flipping would mean we would see the lagoon change from having clear water and an aquatic environment dominated by seagrass (Ruppia) to turbid, murky water dominated by algal slime – this would be devastating for the lagoon,

the plants and animals that live in it – and for hunting and fishing.

Environment Southland is leading a multi-agency response to stop the lagoon flipping. The lagoon system is highly complex. The quantity and method of the nutrients and sediment getting into the lagoon is still being investigated but the cumulative effects over many years of land development and drainage, and recent land use changes and intensification, are known to be significant contributors.

This publication is a very simplified look at the lagoon, to help you understand some more about this highly significant environment.

Where is the Waituna Lagoon?



What lives in the Waituna Lagoon



Birds

Over 80 different birds have been recorded in the Waituna area and it is renowned for its bird life. Many visitors come to Southland to bird watch at the lagoon. Some of these birds, like the Eastern bar-tailed godwit (kuaka) migrate from their breeding grounds in Siberia, to seek food in our summer months. Some rare species that can be found at the lagoon include the Southern New Zealand dotterel, the Australasian bittern (matuku), the marsh crake, Eastern bar-tailed godwit (kuaka) and the fernbird (mātātā). Plentiful ducks and other water fowl attract hunters to the Lagoon.



Fish

There have been 18 fish species found in the Waituna catchment. This includes native, introduced and estuarine species. Common bully, longfin and short fin eels and giant and banded kokopu have all been found in the catchment. The brown trout fishery in the lagoon is very important in Southland.



Ruppia

Also called seagrass, Ruppia is an aquatic plant that grows in the water in the lagoon. It favours clear freshwater. Scientists call this a macrophyte. Macrophytes provide cover for fish and a place for aquatic invertebrates to live. They also produce oxygen and act as food for some fish and wildlife. Ruppia has been identified as playing a key role in regulating water quality as well as providing habitat for animals. Ruppia is a critical species because it;

- absorbs nutrients
- stabilises sediment by anchoring its roots in the sediment
- maintains clear water by reducing sediment re-suspension
- limits shoreline erosion
- provides habitat and food for aquatic species (fish, macroinvertebrates, birds)



Slime algae

As the name suggests, slime algae is a disgusting slimy algae. It makes its home on and around the Ruppia, smothering it, and reducing the ability for the Ruppia to find light, eventually killing it. Slime algae smothers Ruppia and takes oxygen out of sediments, stressing the Ruppia. When Ruppia is gone then the competition will be between slime algae and phytoplankton – slime algae looks gross and takes over the lagoon. It has only been found in the lagoon in recent years.

Phytoplankton

Phytoplankton are microscopic and live within the water column. While some phytoplankton growth is welcomed – too much is not. The growth of phytoplankton depends on the availability of carbon dioxide, sunlight, and nutrients. When conditions are right, phytoplankton can bloom, reducing the ability for the Ruppia to find light. Too much phytoplankton can decrease the water clarity which limits light for other (more desirable) aquatic plant growth.

Water Quality



Because the Waituna Lagoon is shallow and poorly flushed, this means the water remains in it for a long time, with an artificial opening at times. It is particularly vulnerable to elevated nutrients, sediments and other inputs from the catchment.

Water quality describes how healthy a waterway is and can help to diagnose any problems. It is essential for the water quality to be good to sustain a healthy environment. There are many different parameters that can be measured to get a good understanding of water quality. Plants, animals, clarity, water chemistry (for example, nutrients and oxygen), sediments and bacteria can all be sampled to give us an indication of water quality.

Results from Environment Southland and independent scientists confirm the lagoon is in a very poor condition. Over time these changes have been observed;

- Nutrients are increasing
- Sediment is increasing
- Ruppia is decreasing
- Slime algae is increasing

Nutrients increasing

Nutrients include nitrogen (N) and phosphorus (P). Levels of both N and P in the lagoon are too high and increasing, contributing to poor water quality. While levels of nutrients occur naturally in the environment, activities we undertake on the land can increase the levels of N and P running off the land, into creeks, and into the lagoon. Factors that have the potential to increase the amount of nutrients entering the lagoon include;

- Stock urine and faeces on paddocks
- Applying farm dairy effluent
- Drainage networks
- Applying fertiliser
- Eroding soil from paddocks and creek, stream and drainage channel banks
- Winter grazing
- Stock access to waterways

Nitrogen and phosphorus are essential nutrients required for the growth and development of aquatic plants, but too much causes problems. Increased nutrients can increase slime algae and phytoplankton growth and contribute to eutrophication, and can cause the lagoon to flip.

Sediments increasing

The level of sediment in the lagoon is too high and increasing, contributing to poor water quality. While sediment does occur naturally in the environment, activities we undertake on the land can increase the amount of sediment running off the land, into the creeks, and the lagoon. Factors that increase the potential for sediment to enter into the water include;

- Drainage networks
- Applying farm dairy effluent
- Eroding soil from paddocks and creek, stream and drainage channel banks
- Winter grazing
- Stock access to waterways



2007



2010

Too much sediment smothers Ruppia, and reduces light, limiting its growth. Once Ruppia is gone, the lagoon will flip in the presence of higher nutrients.

Slime algae increasing

The level of slime algae in the lagoon is too high and increasing. There have been two blooms of slime algae in recent years. This slime algae contributes to decreased water clarity and general value of the lagoon, and can outcompete the Ruppia. An increase of nutrients is fuelling the growth of the slime algae. As the slime algae grows it uses up more oxygen, and releases more nutrients from the sediments already in the lagoon.



Water Quality

Phytoplankton/Cyanobacteria increasing

The level of phytoplankton in the lagoon is too high and increasing. There have been two phytoplankton blooms in recent years. Phytoplankton can make the water go murky, (reducing the Ruppia through shading) and certain types also contain toxins (ie Cyanobacteria). An increase of nutrients is fuelling the growth of the phytoplankton.

Ruppia decreasing

The cover of Ruppia is declining. Just as soil in a paddock with no crops can be made airborne with wind – sediment in the lagoon can be stirred up without Ruppia's roots holding it down. Ruppia is an important species for the lagoon as it absorbs nutrients, stabilises sediments by holding its roots in the sediment, maintains clear water and provides habitat and food for aquatic species (fish, macroinvertebrates, birds).

Factors that are contributing to Ruppia decreasing;

- Increased sediments
- Increased nutrients
- Increased shading and turbidity from increases of sediments and nutrients
- Decreasing oxygen

Unfortunately, seagrass communities can collapse when there are increased nutrients, particularly nitrogen and phosphorus. Therefore we have less Ruppia in the lagoon, and what remains is under even more pressure as the nutrients are increasing. It is further stressed when the lagoon is open to the sea.

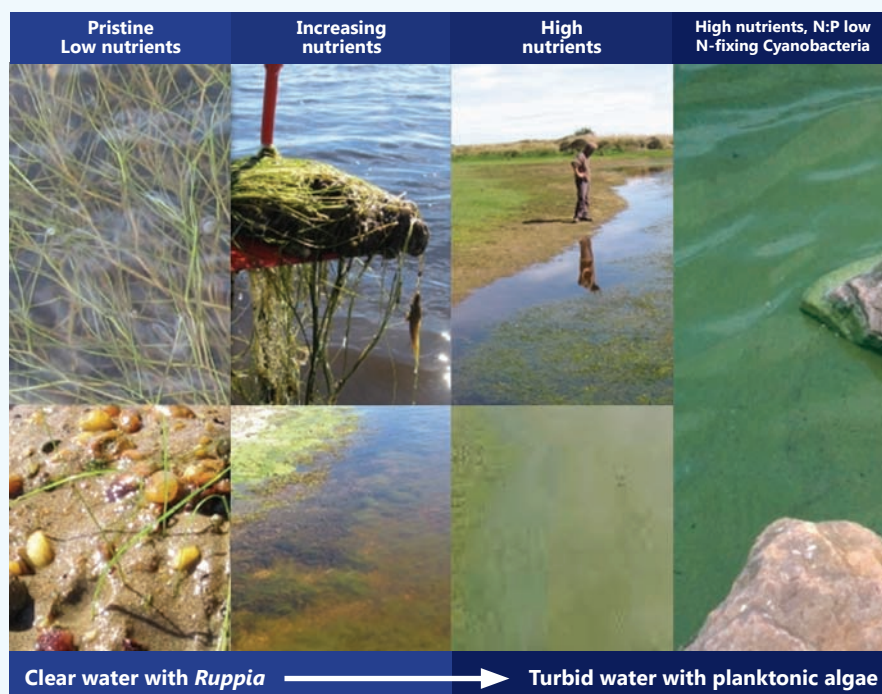
Eutrophication

The term "eutrophic" means excessively-nourished and therefore eutrophication is the process where a water body acquires a high concentration of nutrients. Typically this promotes excessive algae growth, and is undesirable. Negative environmental effects include the depletion of oxygen in the water, which causes reductions in fish and animal populations.

Slime algae and phytoplankton are able to thrive in eutrophic conditions, more so than plants such as Ruppia, and cause a severe reduction in water quality. This disrupts and alters the ecosystem, leading to collapse.

Typically the water becomes cloudy, and dirty (green, yellow, brown) and decreases the quality of the water.

Currently the Waituna Lagoon is eutrophic and increasing in nutrients.

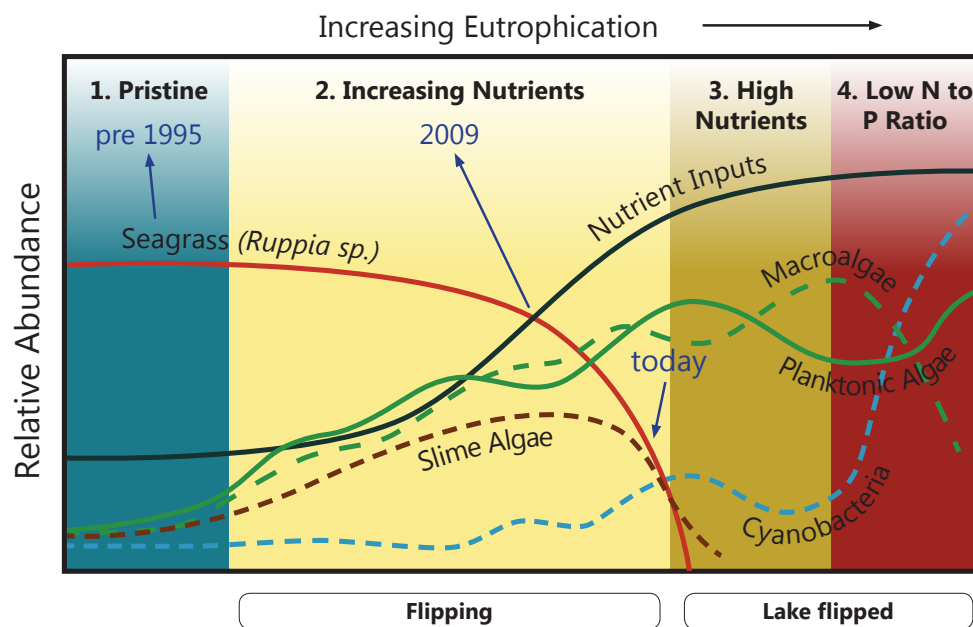


A Flipping Lagoon?



As the lagoon undergoes increasing eutrophication, it is at increased risk of flipping. Flipping refers to a change or a flip in the state of the dominant organisms and surrounding water. Currently the *Ruppia* is the dominant organism, but this is changing, or flipping, to being slime algae and phytoplankton dominant. If the phytoplankton and slime algae outcompetes the *Ruppia* and the water becomes murky, we would say the lagoon has flipped.

The process of the lagoon flipping is rapid. Because it has begun to flip, it could happen over a period of days or take a period of months.



Running the numbers in Waituna....

- Waituna Lagoon is located **40** km south east from Invercargill
- The lagoon is **1350ha**, the catchment is approx **20,000ha**
- More than **80** different species of bird have been recorded in the wetland complex
- Hunting & fishing camps have been in the area for over **100** years
- Waituna receives over **2000** 'angler days' per year
- From small dwellings to large farms there are approximately **130** properties in the catchment
- There are at least **5** types of farming in the catchment (arable, forestry, sheep, beef and dairy)
- There are currently **28,791** consented dairy cows, up from **11,555** in 2000
- There are **41** dairy effluent discharge consents up from **28** in 2000
- Environment Southland has monitored water quality at **4** sites in the lagoon since 2003



Ray Waghorn: a lifetime by the Waituna

When it comes to assessing the health of the Waituna Lagoon, Ray Waghorn uses simple measures: the number of healthy trout an angler can catch in a day; the depth of water under the hull of his boat; whether he can spear enough flounders for the family's dinner.

In the last few years those indicators have been flashing warning signs to the farmer and lifelong hunter and angler, who has spent the last 65 years living beside what he has always called Lake Waituna.

The Waituna is still known as a high quality fishery. "Rita and I went fishing on Saturday," he said earlier this month. "We landed 11 fish – some of them appeared to be dying already."

The honorary ranger and Councillor for Southland Fish and Game says that in March, brown trout that should have been in peak condition ready to spawn were in worse condition than last October. Channels that used to have up to 10 feet of water in them are so badly silted up that they are no longer navigable. And as for the flounder, where once Ray might have speared 50 or 60 in a night, the last time he tried, he gave up after three hours having seen none at all.

Ray is reluctant to express a view publicly about the causes of the Waituna's decline – he has to live in the catchment. Instead he points out that his grandfather was one of the first settlers in the area, back in 1912 when the land wouldn't produce enough to feed his family and he plied his trade as a bricklayer instead, raising the tall brick chimneys on many of the small dairy factories that sprang up around Southland. "I am not against dairying," he says. "I grew up on a dairy farm. We were one of the biggest suppliers to the Oteramika dairy factory when it was going. But all the farms added together didn't have the total number of cows from one farm now."

Ray inherited a love of Lake Waituna from his father. "We grew up here fishing and floundering in the lake. For us as kids this was a hell of an important place. We had a lake to paddle in and swim in. It was safe."

More development occurred in the 1950s and 60s, with the Department of Land and Survey opening up blocks of land for settlement in the Waituna catchment. The land clearance and drainage brought copious amounts of silt into the lake for a time, Ray recalls. Then there was a period of stability until the increase of dairy farming in the late 1990s. After that, he noticed that the lake began to smell, to the point that visitors would comment on it. "In the late 1990s the stink coming off the lagoon was horrendous in the evenings," Ray says. "There was algae washed up from 1 inch to 2 feet thick and 60 feet wide. There would have been thousands of tons of it."

In contrast with today's intensive land use, when Ray was a boy farms in the Waituna catchment were predominantly used for mixed farming; generally

sheep and beef units along with some cropping. The grain used to attract wildfowl to the lagoon, Ray says, and the land was "awesome" for fattening livestock. "This is not dairy country. It's built on tiles." As a consequence, it's a very short trip for nutrients and sediments washing off paddocks down drains and into the lagoon.

Ray still has faith that the health of Lake Waituna can be improved and he has some practical suggestions about what might help. These include creating a new site for opening the lagoon to the sea at the eastern end to flush out the sediments and algae he feels are poisoning the water. He's also prepared to give up some of his own land to use as a natural filter to intercept nutrients and silt before it reaches the water.

"When he was dying my dad said: 'It's your lake now. Look after it for me.' I find that really hard. All the young ones, they don't know how it was. They don't see what it used to be like. I have got to believe that we can stabilise it. Otherwise, you know, I will have to say: Dad, I have failed you."

You'll find more information on the Waituna catchment. science, our work and what you can do, at www.es.govt.nz/environment/land/wetlands/waituna.



Ray Waghorn checking for algae in the shallows of the Waituna Lagoon.

Southland Environment Awards past winner

Walkway aims to keep tourists in Southland



Through determination and perseverance a Southland Lions Club has made a huge difference to tourists coming into their area.

In the late 1990s, following the Cave Creek disaster, the Department of Conservation removed two bridges on the Waipohatu Waterfall Track because of safety concerns, and it fell into disrepair. Now, thanks to the tenacity of the Toi Tois Lions Club, the Waipohatu Waterfall Forest Track in the south Catlins has become a popular walk for locals and tourists alike.

Club President Paul Anderson says the removal of the bridges was a knee-jerk reaction that he hopes won't be repeated anywhere else. "The track was a really good track, but without the bridges it became too difficult to walk. It was classed as a wilderness track and was unmaintained."

The Lions Club, which has been working in the community for around three decades, had talked about the track and the project of restoring it for several years. Requests had come from tourist groups for a longer track in the area. "People come to the Catlins for the scenery and expect to walk tracks and see the area. Until we started restoring the Waipohatu, there were only short walks of about 20 minutes for people to do."

"One thing we wanted to do with this track was give people a reason to stay for at least another day. The district needed something so that tourists didn't just get in their vans and go," Paul says.

Club members decided to lobby the Ministry of Tourism for funds to restore the track and resulted in a \$15,000 grant. This paid for new bridges to be built and airlifted into place. "DOC was very supportive of the project. They were keen to open it up, but they needed to know a genuine group was interested."

Support from Club members and the wider community is evident in the thousands of volunteer hours donated to the project. Contractors helped to set bridges in place free of charge.

"It's been 4-5 years now," Paul says. "We jumped through many hoops to get to where we could start on the track and it wouldn't have happened without the funding, but it's definitely been a worthwhile project, a real bonus to the area."

DOC has since installed a track counter to measure the number of people walking the track, and at last count it was attracting an average of nine people every day.

The loop track takes about 2-3 hours to complete and there is a wheelchair accessible loop that DOC maintains. It's in part of the Catlins state forest and the track is classed as a back country track, so walkers should 'expect to get their feet a little muddy.'

Paul says it would be great to extend the track somehow, but that would pose new problems, as it wouldn't be possible to keep it as a loop anymore.

The Toi Tois Lions Club is now focused on maintaining the track. They need two dedicated groups of volunteers to keep on top of minor damage each year, but aim to do more by having members complete the track every month.



Thousands of volunteer hours have gone into restoring the Waipohatu Track in the Catlins.



Nominations open for Environment Awards

Nominations are now open for the 2011 Southland Environment Awards.

The awards are an opportunity to recognise and reward the achievements of all those in our community who are working to restore, improve or appreciate Southland's environment, and those who are always looking for innovative ways to minimise the effects of people's activities on our natural world.

There are seven categories:

- Individual
- Schools
- Community Groups
- Farming
- Commercial
- Environmental Innovation
- Environmental Achiever

Often people are reluctant to put themselves forward for an award so please help them get the recognition

they deserve by filling in a nomination form on their behalf and persuading them to sign it.

You can also nominate yourself or any group, company or organisation you are involved with.

There are great prizes thanks to our sponsors, including cash, travel, native plants and a range of financial and legal services.

It's easy to enter – just download the information and nomination form from www.es.govt.nz or phone us on 0800 76 88 45 and we'll send you one. Be sure to send it back to us by Friday 29 April. Judging takes place in May and the awards will be presented in July.

E-mail service@es.govt.nz or phone 0800 76 88 45 if you need more information.



Calling young film-makers

Want to be the next Robert Sarkies or Peter Jackson? Entering the Green Screen Environmental Short Film Awards could be your springboard to a career in the movie industry.

The competition is aimed at school students and youth and Environment Southland hopes it will spur young Southlanders to think positively about environmental issues in our region and express their ideas on film.

The movies, each up to five minutes long, will be screened at a gala night at Centrestage Theatre in Invercargill in July, with the winners also played at the Southland Environment Awards night two days later.

The awards will be given in three categories – Yr 1-8, Yr 9-13 and an open section for any Southland resident aged up to

25 years. Cash prizes of up to \$1000 will be awarded in each section.

The Green Screen Environmental Short Film Awards are being organised with sponsorship and assistance from Fonterra, Cue TV and The Edge.

Full information about the awards, including conditions of entry, are online at www.es.govt.nz and have also been sent to all schools.



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

The next Envirosouth will be published in July 2011.

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