



The future of Sustainable Agriculture

Each country has its own approach to resource management. Taking note of these differences is useful for our own policy and practice development, and can provide insight into what may be around the corner in terms of sustainable agriculture and resource management in New Zealand. Alan Campbell reports on a recent 'study trip' to North America, Ireland and the United Kingdom, part of which was funded with support from NZARM through the McCaskill Award.

Last year I was fortunate to undertake a tour of natural resource management agencies in North America, Ireland and the United Kingdom, with support from NZARM in the form of a McCaskill Award. In doing so, I was able to observe how these agencies work, what kinds of policies they operate, how farmers respond, and what the outcomes are. Of course, their circumstances are quite different from ours, with different resourcing and operating in different cultures. However, there are some intriguing lessons to be learned about options for management that we might otherwise feel are beyond us here in NZ.

The following report gives a brief outline of the lessons I gleaned from this trip and the possible implications for agriculture and environmental management in New Zealand.

ADMINISTRATIVE STRUCTURES

It's true that wherever you go, it will take a while to grasp the complexities of administrative systems, and New Zealand is probably no exception. I guess a stranger coming here for a look at our systems would be bewildered by the relative roles of MfE, DoC, Regional Councils, and Territorial Authorities, not to mention the Parliamentary Commissioner for the Environment, the Landcare Trust, and Landcare Research.

My experience was that a similar proliferation of interlinked, semi-autonomous, partially independent organizations exists in each country I visited. Each has a clear idea of its important role in addressing the local issues, and understands clearly how it is linked to others. And in each case, the separation is at least partially based on an intention to separate Central Government agencies from any service delivery.

When looking at a system from the outside, it makes it very clear where inefficiencies can begin to creep in, and this enthusiasm for separating policy from delivery is one clear opportunity for inefficiencies and double administration. Despite New Zealand's multitude of agencies, at least the Regional Councils are able to operate vertically integrated systems of policy development and service delivery.

REGULATION

The most striking feature of my visits was the total acceptance by the farmers that they should be tightly regulated. The expectations on these farmers are very high compared with our situation. Each farm business has to comply with multiple sets

of rules and limitations which ultimately limit their earning potential. This is offset by subsidies, and in some cases these are substantial. In fact, virtually every farmer I met would be uneconomic without them. But the regulations have been a part of their businesses for so long that they are just a part of the landscape.

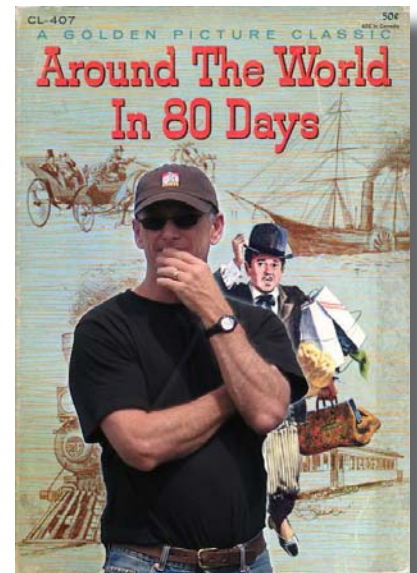
This parallels our experience in the Waikato Region. Two years ago when we began to monitor dairy effluent compliance by helicopter, we were called names and threatened with anti-aircraft fire. Now, most farmers will willingly agree that we should indeed be strictly enforcing the rules. As long as we are fair, consistent, and accurate, they know that we are doing everyone a service.

Most are also aware, at least in a general sense, that their industry has exceeded environmental limits, or society's expectations, and that more regulation is likely. Our challenge is to ensure that any such policy changes are fair, consistent, efficient and likely to achieve their stated objectives.

ISSUES

The consistency in issues around the globe was striking. Everywhere I went, nutrient management was the dominant issue and is the limiting factor, both environmentally and legislatively. Although there was a multitude of issues, ranging from threats to bird habitat through to heritage and historical values, the responses to these issues were able to be built in to the farm system. But nutrient management effectively defines the scale of farming and the range of options available to any particular landowner.

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NZARM

The New Zealand Association of Resource Management (NZARM) is an incorporated society that provides support and focus for people who share a professional interest in the sustainable management of New Zealand's natural resources.

NZARM's purpose is to champion the resource management cause, to promote professionalism, and to maintain a strong community spirit of meeting, sharing, and generally having a good time. Members receive benefit through an annual conference, regional workshops, a Broadsheet newsletter three times each year, and the opportunity to become a recognised professional and accredited practitioner of resource management.

Further information, including membership registration details, can be obtained from the NZARM website (www.nzarm.org.nz) or by contacting the secretary:

The Secretary
C/- NZARM
Private Box 5280
PALMERSTON NORTH.

BROADSHEET

BROADSHEET is the newsletter of the New Zealand Association of Resource Management. It is now published three times per year.

The Editor welcomes correspondence, reviews of recent publications, interim reports of current research or resource management issues, news items, other articles, and lighter items about members activities and career movements. An invitation to make submissions to Broadsheet is sent out 2 – 4 weeks prior to the publication date. However, SUBMISSIONS CAN BE MADE TO THE EDITOR AT ANY TIME. Generally submissions are sent to NZARM regional coordinators or directly to the Editor. Copy sent by E-mail is preferred, although typed copy is also acceptable. Items can be sent to:

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Editor's note

Firstly, many apologies for the lateness of this edition of Broadsheet. It's that time of year. Secondly, I've drawn a blank for an interesting and perky editorial, so you're not going to get one. Rather, I would like to take the opportunity to introduce the newest members to the NZARM association. They're bound to be more interesting anyway.

Jen Rodgers is currently working with Environment Canterbury in Consents Monitoring. Background includes a BSc in physical geography and environmental science. Past positions cover in biodiversity threats, DOC/Greater Wellington Regional Council – pest control, post pest control monitoring of native indicators species. Currently monitoring water take consents/assessing river flows – working to maintain fish passage/recreational values etc in rivers & monitor irrigation take.

Douglas Benn is working for Landvision Ltd as Land Management Field Officer. He recently completed B. Appl Sc (Agriculture) from Massey, and has spent several summers working as field technician for AgResearch Grasslands working on slips assessment and nitrogen trial blocks. Currently working on whole farm plans for Horizons Regional Council's SLUI program.

Helen Rouse is currently working for NIWA as a Resource Management Consultant. She has a B Sc (Hons) and PhD in Physical Geography from University of Hull. 15 years experience in research, tertiary teaching, regional government and central government in NZ and UK. Helen's interest in resource management comes from a technical background in geomorphology, having studied coastal and fluvial systems in UK and Lincoln University. Helen has previously worked as the Environmental Information Manager at the West Coast Regional Council.

Charles Hurt is a researcher with B Sc Agric and M Sc Agric degrees majoring in Grassland Science obtained from the University of Natal, South Africa, in 1987 and 1989, respectively. He has 20-years research and research management experience in rangelands and pasture management (Dept of Agriculture and the Agricultural Research Council), and five-years experience as a resource-management and ecological consultant (own consultancy). Affiliations and distinctions include being a professional member and Past President of the Grassland Society of Southern Africa, a current member of the NZ Grassland Association, and a recipient of the Pietermaritzburg Civic Award for Environment Excellence.

Matthew Highway is currently a Land Management Officer for the Northern Coromandel arm of Environment Waikato. He previously worked for Tonkin & Taylor and Wildlands consultants. Currently completing MSc in Environmental Science part time at Auckland University.

Other recently joined NZARM members include **Ian Millner** from Hawkes Bay Regional Council, and **Derek Birks** from Gisborne District Council.

Them hard done-by farmers

Positive public perception is critical for the sustainability NZ agriculture. Record dairy payouts, exorbitant supermarket prices for dairy products, delayed carbon emission obligations, owning 'million dollar farms', and being the proven key cause of many water quality problems, are just some of the factors contributing to a not-so-popular public view of farming. Simon Stokes puts forward his own view as to why agriculture should be perceived in a more positive light.

Professor Rowarth's comments at the February Fertiliser and Lime conference really struck a chord with me. I have become increasingly concerned about the negativity towards our rural sector and farmers in particular.

But why this negativity? I think there is a genuine and growing momentum across the agricultural sector in relation to understanding the modern realities of farming, even in an international context.

Just look at the growth in farmer participation in projects developing sustainable outcomes through the SFF gateway and other funding avenues. Look at the Deer Industry NZ developed focus farms and the plethora of programmes facilitated by NZ Landcare Trust.

I think there is more leadership presence now, particularly from MAF, and the farming community. Mike Petersen, Chairman of Meat and Wool NZ reiterated the message of sustainability just last week to their levy payers. Even Fonterra through the development of DairyNZ is coming on board. In actual fact if everybody wanted support our own industry would struggle to deliver.

I am feeling more and more comfortable about the future of our farming environments because the farmers I know understand and their farms display that understanding. This is important because there aren't enough people covering the countryside to deliver advice and support, so it really is the individual farmer who is achieving here.

Given the right environment to deliver, they have been delivering, such as through the High Performance Monitor farm programme in Hawke's Bay. In this programme the economic benefit of wintering cattle runs headlong into environmental concerns of soil damage. The farmers in that group recognised this issue and started addressing it by looking for solutions.

If people are frustrated at the growth and development of the agricultural sector into locations where they haven't seen such flourishing activity or adventure, perhaps we should look at the reasons why. Mostly it is economics, but it is also increasingly difficult for a farming business to find land that provides a low risk environmental tenure due to its physical nature.

Some would suggest that it's the farm system that doesn't fit, and they may well be correct. But the agricultural industry has to evolve to stay economically viable, and that is going to be increasingly difficult

given our landscape.

Have people forgotten that all of New Zealand's physical landscape has some degree of land use risk? The agricultural sector is learning that various parts of NZ require particular and sometimes complex, management. This is a relatively new concept for most, but not all: farm foresters acknowledged this thought process a long time ago.

Let us just remember that we are dealing with people's lives and their values, sometimes tradition. If we don't want rural activity in a farming sense in our landscape, in some high risk areas, where will the farmers go?

Do we want farming to subsist, be strong, or just go away in some areas of NZ? If we want it present, then we have to allow for change to occur, and this will take time and money.

Isn't it interesting that if the sector can contemplate the development of an economically viable dairy business on the Canterbury plains or the pumice landscape of the central North Island, what does that say about the performance of the industry as a whole? I would say it's healthy.

Where the agricultural sector is trying to catch up is in making it environmentally healthy.

From experience, farmers are doer's and so are their industry. You give them a chance to learn, implement, and succeed, and they will work harder than most, at their own cost. You remove or undermine that premise and they will shut the gate.

The sector needs coordination, it needs consistency, and it needs a framework from which to achieve.

It needs to feel good about what it's doing, it needs its values recognised, and it needs flexibility relative to time, finance, and knowledge to deliver.

For those of us who work alongside the sector we must provide this environment. We must learn that our values and accelerated desire for success cannot be forced.

For all my working life I have learnt from farmers and their professional peers. I just pass on that knowledge, the farmers do the rest. But I have never been negative, ever.

Simon Stokes
Environment Bay of Plenty

The future of Sustainable Agriculture

Continued from front page...

In each case, the required standards are established remotely, by agencies that are not only geographically isolated, but also culturally disconnected from the agriculture industry. As a result perhaps, the policy making process is less subject to emotional and political filters than is the case in New Zealand. In our case, policies that constrain farming will often have to make it past a Council that has a majority of farmers on it.

It seems inevitable that New Zealand agriculture will also reach the point where nutrient management becomes the limiting factor, and in some places it appears probable that we have already passed that point. Certainly in the Rotorua Lakes Catchments and Taupo this has been confirmed, and the work is still being done on other catchments. But the intensification trends are undeniable and in the absence of anything to arrest them the limits will be reached sooner or later.

RESPONSES

For a while I was thinking that nothing I was seeing could be translated to the New Zealand situation, because we are not going to have the subsidies that form the core of responses in other countries. Logically, if we are using an agricultural economy to subsidise agriculture we are getting into the realms of funny money. However, three elements stood out for me that are worth keeping in mind.

1. Regulation

The level of expectation in terms of environmental performance is much higher elsewhere than in New Zealand. It is simply unthinkable to have stock wandering into streams, effluent systems must have covered storage for three months, and you can't just keep on intensifying a farm operation just because it will make more money.

The comparison with New Zealand is decidedly unfavorable. Our farmers enjoy tremendous freedom to operate with few real restraints. This is perhaps based on perceptions of farming as it used to be and a pioneering attitude that recognised you had to break a few eggs to make an omelette.

Now however, we are seeing farming on an industrial scale, and the effects are impinging on the aspirations of other sectors of society. And this is no longer just a product of unwise land use choices on class VIIe hill country, but is most evident on our best land. The Agriculture Industry as a whole is showing variable responses to this trend, but overall it is clear that they are not going to limit their potential earnings by adopting voluntary constraints. Regional Councils are going to have to identify the natural limits of their environments, and then introduce policies that will ensure their protection. In the absence of this kind of leadership from Regional Councils, Central Government will inevitably have to introduce National Standards.

2. Advice and Education

Without exception, the staff of agencies I visited wanted to have more opportunity to work one on one with farmers. The regulations and subsidies gave an opening to interact with them, but in many cases this interaction was limited to a very bureaucratic administration of permits and funding systems. In every case, farmers and their advisors / regulators found that the best results came from cooperative relationships on a one to one basis in which each party had the opportunity to understand and respect the position of the other.

The acceptance of regulation was closely tied to the estab-

lishment of relationships between staff and farmers, and the quality of advice that they offered. Farmers appeared to respect not only the staff, but also the rules, when they were given good advice on what the rules were for and how to comply.

My impression was that we do this better in New Zealand, maybe because we don't have the other tools available. However, our split between regulation and advice sets up an adversarial approach that prepares us poorly for a more regulated future. The end objective of improving environmental outcomes must remain our focus and this is likely to be enhanced when our regulatory staff give farmers every possible assistance to help them to comply with the necessary standards.

3. Work with industry

The relationship between the agricultural leaders, agri-business and the environmental agencies appeared to be more distant in most places than I have experienced in New Zealand. Although I attended one meeting in Scotland at which the National Farmers' Union was present, SEPA staff believe that there is no prospect of co-operative approaches with industry. In Oregon I met the Chair and Deputy Chair of the Agricultural Council, and there is clearly a positive relationship there with the Department of Agriculture staff but this was an exception.

Our own experience, in particular with Fonterra, DairyNZ, Federated Farmers, the fertiliser industry and to some extent Meat and Wool New Zealand, is a much more positive one. For all of the reservations and caveats, disputes, arguments and legal battles, we still manage to work together at some level, and I believe this is one of our great strengths. And as the going gets tough over the coming years and we collectively attempt to address the effects of increasing intensification, this history together will perhaps be our biggest asset.

CONCLUSION

Overall I traveled for three months, visited numerous agencies, rural professionals and farmers, and watched a few games of rugby. In the end I concluded that New Zealand farmers are going to have to make some major adjustments to their expectations over the coming generation. And those of us who work with farmers will also have to change. I believe that the roles of regulation and advice will need to come together to ensure that there is no ambiguity about the expected environmental standards, and that farmers have the necessary knowledge to achieve them.

Acknowledgement

I am very grateful to Environment Waikato and to the Executive of NZARM via the McCaskill Scholarship for the funding provided to help to make this study possible. Without it, this would have been simply a trip to the Rugby World Cup.

Alan Campbell

Environment Waikato

LUC & LRI Training

A Land Use Capability (LUC) and Land Resource Inventory (LRI) training course was recently held in Hawkes Bay. Melanie Schauer and Sam Shannon report on how it went.

The Hawkes Bay Regional Council in partnership with Simon Stokes from EBOP recently held a 3 day training workshop. The focus of the workshop was understanding the New Zealand Land Resource Inventory and assessing landscapes in terms of their capacity for sustained productive use.



Mr Stokes about to break out into "the hills are alive with the sound of music"

The course was very practical involving fieldwork along side classroom work to learn the LUC language and how to apply it in the field.

It was awesome to have local legends leading the course and sharing their extensive knowledge with the new wave of land managers. The course attendees came from a variety of Regional Councils so provided us with a great networking opportunity.



A couple of "local legends".



"Training" at Ocean beach

The challenge for us South Islanders is now to go out put the training into practice in our own environment.

The LUC/ LRI are excellent tools that can be used to interpret and document the landscape features and hence provide the essential building blocks for farm planning.

So a huge thank you to Warwick Hesketh, Simon Stokes and Garth Eyles for providing us with a well organized and fun few days in Napier.



The 2008 LRI and LUC training cadets

We hope that this will in the near future become a NZQA accredited training course.

Melanie Schauer and Sam Shannon
Resource Care Timaru

CONFERENCE

NZARM holds an annual conference to promote new learning, information sharing, networking, and a sense of community in the field of resource management. Venues alternate between the North and South Islands, and one of NZ's 16 regional authorities will usually host the conference itself. November is most favoured as the time to hold the conference.

This years conference will be held in Nelson, October 13-15. The broad theme is around ICM but the conference will also consider alternatives to ICM approaches.

If any member has a particular interest in presenting a paper at this years conference please contact the Convener of the organising committee Andrew Fenemor FenemorA@LandcareResearch.co.nz

MORE DETAILS ON PAGE 11

MEMBERSHIP

NZARM welcomes new members, particularly if you have an interest in sustainable resource management. Prospective members can apply anytime, by obtaining a registration form from the website (www.nzarm.org.nz) or from the NZARM secretary. Candidates are nominated by two existing members (contact the secretary if this would be a constraint).

Annual subscription is a discounted \$50 if paid before the 31st March. Late payments incur the full subscription cost, which is an extra \$20 (late payments extend administration requirements and end up costing the Association money). All membership enquires to:

The Secretary
C/- NZARM
Private Box 5280
PALMERSTON NORTH.

As a member of a registered association, members must inform the secretary in writing when they cancel or let their membership lapse. Otherwise the member will continue to be billed for the annual subscription.

PROFESSIONAL ACCREDITATION

The system that NZARM uses for professional accreditation is currently being reviewed.

MEETINGS

Regional meetings are key elements of NZARM's mission and service to its members. These meetings are usually designed around a particular regional issue and tend to involve members and interested people from both within, and from adjacent regions.

NZARM supports such events by providing financial support via seed money. Applications can be made to the National Regional Coordinator at any time. Visit the NZARM website for more information (www.nzarm.org.nz), or contact the NZARM secretary.

www.nzarm.org.nz

EVENTS

Soil Science Society 2008 conference SOIL – THE LIVING SKIN OF PLANET EARTH, 1-5 Dec 2008, Massey University (joint conference with Australian SSS). <http://conferences.massey.ac.nz>

Contact the editor if you have an event you want added

(Alick) Lindsay Poole 1908-2008

Lindsay Poole passed away recently. He has been an honorary NZARM member since 1972. Dex Knowles and Graeme Anderson both sent in obituaries.

Lindsay's passing on January 2 2008 at the age of 99 brought to an end an illustrious career. He was a man who dedicated his life to public service while pursuing his passion of botany, and indigenous and exotic forestry which formed the cornerstones of his interest in land and all things it supports. A conservationist and environmentalist before those terms became known.

I met him first in the mid 1960's when he sat as a member of the Soil Conservation and Rivers Control Council (SC&RCC). He was Director General of the Forest Service (NZFS) in 1970 when the Deputy Director General, Malcolm Conway and Noel Coad, D.D.G. Lands and Survey, visited the Nelson Catchment Board (NCB) at the direction of the then Minister of Forests and Minister of Lands and Survey, Duncan McIntyre. The Minister had been asked to approve the form of a draft lease agreement which would have enabled the Board to lease to forestry interest's lands acquired for retirement in the Wairoa - Lee - Roding Catchment Control Scheme. The Minister noted that he was approving significant expenditure for the NZFS rapid exotic expansion programme (driven by Lindsay) in Nelson and other key regions.



NZARM 50th anniversary conference (Rotorua 2003). Left to right: Lindsay and Barbara Poole, Natalie and Graeme Anderson.

The outcome was that the potential revenue earning venture was nipped in the bud when a decision was made to transfer the acquired lands from Reserve (SC&RC Purposes) to State Forest.

In the early 1970's there was a rapid in-

crease in exotic timber harvesting in Nelson. In part it was driven by the post Wahine Storm (1969) salvage operations but also log exports, the chip trade and other marketing opportunities. The "Beech Scheme" for Nelson - Westland was also being rolled out which proposed (surprise! surprise!) sustainable logging of lowland beech forest. It proposed; clear felling, regeneration, enrichment and some exotic conversion. Lindsay was an acknowledged world expert on beech and these proposals along with another in Southland had been carefully developed under his guidance. There was a large potential export market to be satisfied and after three separate reports were prepared by Lindsay, at the request of government, none were acted on and the resource was locked up and remains unmanaged.

Accelerated harvesting of exotic forests on hill country saw the introduction of short-cuts and the use of techniques that led to erosion damage onsite and siltation offsite. The issues were attacked at a local level in Nelson and there was concern that similar problems may arise in the beech forests when the project got off the ground. As Chairman of the SC & RCC, Lindsay at-

tended a meeting in Nelson convened by the NCB, together with national and local representatives of NZ Forest Owners Association (commercial interests) and NZFS. The NCB proposed to introduce statutory control on forestry operations whereby NCB approval of a proposed operation would become a prerequisite. The

ensuing discussion was enthusiastic and intense. Towards the end of the meeting Lindsay made a meaningful observation along the lines of "... I've seen enough evidence presented today to convince me that the industry needs the level of controls sought ...".

By about the end of 1972 SC & RCC approved the application of a Public Notice under Sec. 34 (1959 Amendment) SC & RC Act 1941, to control the removal or disturbance of exotic and indigenous forest cover in the Nelson district. Over ensuing years Forest Operation Guidelines were developed and similar controls were introduced by a number of other catchment authorities.

Throughout his 8-year role as Chairman of the SC & RCC Lindsay strongly supported and promoted the concepts of catchment control schemes for integrated soil conservation and river control management (ICM). He provided leadership and encouragement to catchment authorities and lobbied with success at a central government level. At an officer level he fostered; innovation, initiative, professionalism and responsibility. In one such case he provided considerable support for the establishment and recognition of the Soil Conservation Certification Board.

The 1986 - 88 central government reorganisation which saw the abolition of a number of government departments and agencies including the NZFS

together with the dispersal/disposal of state forest assets caused Lindsay considerable angst. He was angered and saddened by the political decisions which robbed the country of a valuable resource and source of wealth and sustainable income.

He has written a number of authoritative works in botany and forestry fields and also one on catchment control in NZ. His last work - "Trees, Timber and Tranquility" was published when he was in his 90's.

Lindsay confided in me on one occasion that having been born in a remote bay on the East Coast north of Gisborne, had its limitations. Having reached (I think) Standard 4 he was sent to Auckland to continue his education. After the Christmas holidays each year he left home to board the coastal shipping service from a surf boat and travelled to Auckland to only return home for the following Christmas.

But - didn't he do well?

Dex Knowles.

Tall tree in forestry world falls

■ Alick Lindsay Poole CBE
Scientist, forester

LINDSAY POOLE was a notable director-general of the former New Zealand Forest Service as well as a major contributor to the literature on New Zealand's flora.

Mr Poole, who died on January 2 at the age of 99, strenuously advocated the vigorous expansion of commercial plantation forest crops on land deemed suitable for timber growth.

He once defined forestry as "the art and science of managing forests so as to secure a wide range of environmental and socio-economic benefits, including a sustainable production of wood where necessary and possible."

He was scathing about the sale of state-owned forests in the late 1980s by the Labour government, which he described as "the sale of the century", when "over 70 years of hard work and long-term planning was thrown away in two years".

"Those sales were conducted on the following basis: 'Buyers will have complete flexibility in planning the harvesting and utilisation of the wood.' Where was the basis of sustainability of production; of gauging land-use problems of water and soil, and human problems of population and settlement?"

He believed everything was connected — employment, land, trees, climate and people — and that forestry was not simply a case of putting trees in the ground.

But "the happenings to forestry ... over the last 20 to 30 years have been such that most people have become perplexed in what forestry is."

He was convinced Otago was an ideal habitat for large-scale sustainable forestry planting, in which a major industries could be sustained using Port Otago and the region's service industries, but that its potential had been destroyed by Labour's decision in 1987.

Mr Poole was born in Gisborne and educated at Kings College, Auckland, Auckland University



Forester, botanist and author Lindsay Poole ... A genuine "man of trees".

PHOTO: JANE DAWBER

College school of forestry, and Victoria University of Wellington, from which he graduated with a Master of Science degree. He was in later years elected a fellow of the Royal Society of New Zealand in recognition of his contribution to science across several disciplines.

He joined the New Zealand Forest Service in 1931, in Rotorua, and transferred successively to Hammer and Balmoral forests in Canterbury, and from 1937 to 1940 was on the staff of the botany division of the Department of Scientific and Industrial Research.

He served as a scientific liaison officer in London during the war, being heavily involved in war-

related scientific research, and after the war he was seconded in Germany to work with the Forestry Timber Control Section of the British military government, charged with rebuilding the German forest service.

On his return to this country in 1947, he was appointed assistant director of the botany division, and became its director in 1949.

Mr Poole was assistant director of forestry from 1951 to 1961, when he became director-general of forests, a position he held for the next decade. He then became chairman of the Soil Conservation and Rivers Control Council, until 1978.

During his long career Mr

Poole published many research papers, but the general public became acquainted with his work principally when, with Nancy Adams, he published the notable *Trees and Shrubs of New Zealand* in 1963. It has since been reprinted many times and is to be found on thousands of New Zealanders' bookshelves.

Other books included *Catchment Control in New Zealand*, 1983; *Southern Beeches*, 1987, *Tomorrow's Trees*, 1991, and *Trees, Timber and Tranquility*, 1998.

He was made a Commander of the Order of the British Empire in 1971.

He is survived by his wife Barbara and a son and daughter.

On a visit to Jolendale Park in Alexandra, when he was 96, he said what was happening there should be happening across the country, but, to his "eternal shame", it was not.

He then quoted the words of Judge Arnold Turner, a retired principal judge of the Planning Tribunal: "It is necessary for every community to have a common ethic governing its relationship with the natural world."

"If the community does not have a common environment ethic, its debates about the environment will be reduced to a Darwinian struggle of special interest groups, where power, not morality rules." NZPA

Extract from the Otago Daily Times (1.2/01/08) sent in by Graeme Anderson

The 'new age' LUC Handbook is coming...

Some of you may be aware that the Land Use Capability Survey Handbook is being updated. Grant Douglas reports on how it's all going.

A project to update the LUC Survey Handbook last published back in the early 1970s is over half way through its 20-month timeframe. It is funded by FRST's Envirolink with significant in-kind support from regional councils, and involves a team of senior scientists from the CRIs AgResearch, GNS Science and Landcare Research, representatives from a number of regional councils, and several consultants. The project is on target to conclude in December.

Key sections in the new Handbook are 1) Introduction, 2) Outline of the LUC survey and classification system, 3) Inventory of physical factors, 4) The Land Use Capability Classification, 5) Mapping process (how to make a map), 6) Applications of the LUC system, 7) Glossary of terms, and 8) References. Significant progress has been made in drafting several of the sections, with drafts being revised and revised to ensure that the final product fairly reflects contemporary experiences, approaches, views and attitudes. Part of the development of the Handbook has involved the holding of three workshops in March and September

2007 and March 2008 to discuss progress, handbook content and future directions. A few contentious issues have been addressed with the most significant being how best to describe and quantify erosion severity/seriousness. The team is getting closer to agreeing on the best approach for this, but there are still a few hurdles to overcome. The current focus is now on preparing drafts on the mapping process, and applications of the LUC system.

It is proposed that the section on applications will have 3 farm scale examples, 2 or 3 catchment examples, and 2 regional examples. Examples for each of these were suggested at the March 2008 workshop and these will be followed up with the appropriate regional councils. It is aimed to present each example in about half a page, and include one diagram or other insert e.g. photo.

The science team is planning to have all feedback on drafts by mid-June so that it has adequate time to finalise the entire publication, and have print-ready versions available by August/September. The Handbook will be produced in hardcopy in A5 format and will also be available on a website(s). The team will be aiming for a final product with a similar number of pages to that of the earlier edition.

Associated with the roll-out of the updated Handbook will be the holding of four 1-day training workshops in November/December. Most of the interest in the project has been from North Island regional councils and therefore it is suggested that an appropriate balance for workshop locations be 3 x North Island and 1 x South Island. For example, the northern-most workshop might best be located just south of Auckland e.g. Hamilton, which would be convenient for appropriate staff from Northland Regional Council, Environment Waikato, and Environment Bay of Plenty. The workshops will focus on highlighting the key differences between the 2nd edition Handbook and the updated Handbook, principally erosion types and severity, and LUC class definitions. The target audience for the workshops is land management officers of regional councils and it is proposed that each workshop cater for 20-25 participants.



And there will be **TWELVE CLASSES...**
(nah just kidding. Still the same 8 classes)

Grant Douglas
AgResearch

Visual Soil Assessment revised

VSA is a useful tool for evaluating soil condition, and now a new revised edition is set for release. Bala Tikki-setty reports on improvements.

Environment Waikato recently organised a thought provoking workshop on the revised Visual Soil Assessment (VSA) package at the McMeekan Centre, AgResearch - Ruakura campus, Hamilton and also in a dairy goat farm near Hamilton to up-date the technology to the people involved in soil health management. There was a good mix of participants ranging from regional councils (EW and EBOP), rural professionals, consultants, farmers and scientists. Graham Shepherd, the well-known scientist behind this technology, has presented the revised package.

Most of us very well aware that the Visual Soil Assessment has been a good tool in assessing soil quality at farmers' level and the results are easy to interpret and understand. VSA also provided a useful educational and vocational training tool for those unfamiliar with soil science. It has provided a better understanding of soil quality and its fundamental importance to sustainable resource and environmental management. In particular, I would like to say that VSA developed a greater awareness of the importance of soil physical properties (such as soil aeration) in governing soil quality and on-farm production.

The second edition of the VSA is a significant improvement on the first edition partly because it is better able to assess soil condition and plant performance as a result of a more balanced assessment of soil chemical, biological as well as physical properties. It is more strongly correlated to crop and pasture

production and pasture quality, considers key aspects of the subsoil and better addresses the ecological footprint of organic C dynamics and environmental issues including greenhouse gas emissions and nutrient loading (such as N and P) into water ways.

The following are the brief descriptions of newer indicators added to the revised package of the VSA, which Graham Shepherd presented and discussed at a greater depth during the workshop.

Soil texture defines the size of the mineral particles. Specifically, it refers to the relative proportion of the various size-groups in the soil, i.e., sand, silt and clay. Sand has a particle size >0.06 mm; silt varies between 0.06 and 0.002 mm while the particle size of clay is <0.002 mm. Texture influences soil behavior in several ways, notably through its effect on water retention and availability, soil structure, aeration, drainage, soil trafficability and workability, soil life, and the supply and retention of nutrients.

Knowledge of both the textural class and potential rooting depth enables an approximate assessment of the total water holding capacity of the soil, one of the major drivers of pasture production.

Soil smell, while very dependent on the water content and aeration status of the soil, is also a good indicator of the amount and the activity of soil life. Soil smell is determined principally by the gases given off by



Traditional use of VSA to score soil structure. In a recent study of 18 paired sites by Malcolm Todd (Horizons RC), Kairanga silt loam (left) was identified as having an average 0 score (very poor) while Tokomaru silt loam (right) averaged a score of 2 (very good). Photos from Malcolm Todd.

Visual Soil Assessment revised (con.)

the aerobic or anaerobic respiration of soil microbes, and by the type of and amount of organic matter and humus present in the soil.

Soils rich in fungi for example, produce aromatic compounds and organic acids that give an earthy, rich, sweet, fresh or sometimes musty smell. These are often the characteristic smells of forest soils. The presence of similar fungal smells in a pastoral soil suggests that it is not only well aerated but also the soil has a good microbial biomass. This is because it must have large numbers of bacteria in order to maintain a fungal to bacteria ratio of 0.75 : 1 (or 1 : 1) that is necessary to preserve and promote pastoral plants. An imbalance of this ratio along with poor soil nutrition could explain why pastures may show poor persistence.

The **potential rooting depth** is the depth of soil that plant roots can potentially exploit before reaching a barrier to root growth, and it indicates the ability of the soil to provide a suitable rooting medium for plants. The greater the rooting depth, the greater the available water-holding capacity of the soil, the greater the availability of soil nutrients, and the greater the resulting dry matter production.

Fertilizers applied to pastures with deep rooting systems are more effectively utilized by the plant, resulting in less leaching of nutrients into the groundwater and waterways. During drought periods deep roots can access larger water reserves alleviating water stress and promoting the survival of the pasture. Conversely, soils with a restricted rooting depth due to a layer with a high penetration resistance (such as a compacted layer or a hardpan) limit uptake of water and nutrients, reduce fertilizer efficiency, increase leaching of nutrients and limit pasture growth.

A high resistance to root penetration can also increase plant stress and the susceptibility of the plant to root diseases. Moreover, hard pans impede the movement of air, oxygen and water through the soil profile, the latter increasing the susceptibility to water-logging and erosion by rilling and sheet wash.

Pasture Quality varies according to the amount of green leaf and grass stem, legume content, dead matter, and the botanical composition of the pasture. Dead material has a very low nutritive value and the stem is lower quality than the leaf. Although pasture quality is governed by a number of factors, it can be a good indicator of the condition of the soil.

Animals eat more when pasture quality is high. Pastures with a higher energy level, nutrient density and nutritive value have a higher palatability and contain more useful energy per unit of dry matter. Pasture quality also influences intake because herbage of low nutritive value moves more slowly through the animal's digestive track, physically restricting intake.

The ultimate key to successful pastoral farming is to grow pasture with a high energy sugar content (with Brix levels of 12) and a high nutrient density. This is achieved by promoting the photosynthetic pathway and the conversion of the sugar produced into fats, carbohydrates and proteins in the most effective way possible. In addition to N, P, K and S, this requires Ca, Mg, Na, Fe, Mn, Cu, Zn, Mo, Co, B, Cl, B vitamins, Vitamin C, adenosine tri-phosphate (ATP) and good soil life.

Clover Nodules enable white clover to fix N directly from the atmosphere and provide an environmentally friendly and relatively low energy cost and therefore more sustainable system of pastoral farming. Nitrogen fixation occurs as a result of the reduction of atmospheric nitrogen gas to ammonia ($N_2 + 8H^+ \rightarrow 2NH_3 + H_2$) by the action of nitrogenase enzymes in rhizobium bacteria within the nodules. While rhizobium is an aerobe, nitrogenase enzymes cannot function in the presence of oxygen and so oxygen levels need to be kept low by bacterial respiration and the presence of leghaemoglobin. Leghaemoglobin absorbs O_2 and facilitates the diffusion of only low concentrations of O_2 across the cell membrane into the rhizobia.

While critical, leghaemoglobin can only be produced if levels of Fe, Mn, Cu and Co are adequate. The ability of the rhizobium bacteria to fix N also depends on whether the appropriate strains of rhizobia are present in the soil and, if not, the clover seed needs to be inoculated with the effective strains.

Root length and root density provide good indication of the condition of the plant root system. Pastures with deep roots and a high root density are able to explore and utilize a greater proportion of the soil for water and nutrients compared with pastures with a shallow, thin root system.

Pastures with a dense, deep vigorous root system also raise soil organic matter levels and soil life at depth. The physical action of the roots and soil fauna, and the flues they produce promote the development of soil structure, soil action and drainage.

Bala TikkiSETTY

Environment Waikato

NZARM 2008 CONFERENCE ANNOUNCEMENT

This year's annual NZARM Conference provides a somewhat unique opportunity to experience resource management as it happens in the sunny top of the South Island.

This year's conference will be held in Nelson, October 13-15. NZARM will be working closely with members of the Integrated Catchment Management for the Motueka River research programme in developing and running this year's event.

The broad theme is around ICM but the conference will also consider alternatives to ICM approaches.

If any member has a particular interest in presenting a paper at this year's conference please contact the Convener of the organising committee Andrew Fenemor FenemorA@LandcareResearch.co.nz

Details of the programme are not yet final but the conference will start on Monday morning 13 October around 10:00 am to allow people from out of town to travel. Monday evening will consist of the NZARM AGM followed by some icebreaker type function. Papers will be on Monday and Tuesday and a field trip will be on Wednesday. An optional extra field trip to Golden Bay is also possibly on offer.

So make a week of it and explore what the Tasman area has to offer - come early or stay on, there are plenty of things to do

President's comment

Our President comments on opportunities for improving resource management going into the future.

There has been a lot going on so far this year and many of you are involved in very important issues. Top of the list must be that topic of climate change and sustainable land management, followed closely by nutrient and lake management. The complexity of issues nationally is requiring a greater emphasis on people working together and having people with experience. I should add that it is often finding people with experience that is difficult. There must be an enormous amount of pressure on our scientific community for instance, not only for their expertise, but their capability in delivering outcomes.

Acknowledgement of this fact is that you'll here the terms 'building capacity' and 'bridging the gap'. At a recent regional Federated Farmers conference, farmers asked about the skill level of the land management officers in delivering suitable advice, on what is now a comprehensive approach to environmental management, and at a Dairy Action Team meeting a farmer was asking about how they fill the knowledge gap in relation to nutrient management. Good questions.

Our presence as an organisation has been recognised by those looking at building capacity and bridging the gap. We have a wide range of members, extensive network around the country, and in parts, a lot, if not the only experience available. Your Exec are currently working with MAF, helping define the issues and current capacity, and how to establish a nationally coordinated approach to building capacity, that will support the HCE, CC, and SLM policies. On that note I believe the way to deliver what is required is by growing the very knowledge of the industry that needs the work. That means building the capacity of more than just the Regional Council staff.

I envisage that NZARM will not be involved in delivering training through a contractual agreement. That can be achieved by more suitable organisations and individuals than ours. However our members should benefit from the opportunities this will provide. We should position ourselves as the professional association for, what should be a burgeoning growth of resource managers, and as an advisory group to any nationally coordinated approach to knowledge building. Our strength is in the networking capability and knowledge sharing, and the intangibles that come with being a member of a professional organisation.

The aim in the long term is to continue to deliver sustainable resource management to New Zealand, at the same time catering for the professional development and support required to benefit members.

The Annual Conference is in Nelson with a theme of Integrated Catchment Management, Oct 13-15th. Catchment management is a major topic nationally, and Landcare Research is kindly going to help us deliver an excellent conference on ICM. Watch for details, and tell your colleagues.

There is also a questionnaire in broadsheet about whether you want NZARM to provide a professional certificate for you. Please respond.

Cheers Simon

Regional roundup

SOUTHLAND

We have just recently had our second Farm Dairy Effluent field day. During the day we had talks on different effluent applications, and storage methods. Environment Southland prefers low application methods, such as K line, and differed storage. We have also got 12 soil moisture sites spread around Southland on different soil types. This information is updated every hour on our website, and we hope dairy farmers will utilise this information, so they are only irrigating effluent when the soil conditions are appropriate.

On the 1st May our new 3 meter wintering rule comes into effect. This rule says that between May and September inclusive, all types of stock must be 3 meters back from a water way during intensive grazing, whether it be on pasture or winter crop. Therefore we have been spending some time educating farmers on this rule, including on site visits.

Also continuing on is our Living Streams projects. We have 3 Living Stream projects in targeted Catchments. In these catchments we are offering financial assistance to help fence off waterways, and where appropriate carry out riparian plantings. Other initiatives included in the project, are things such as financial assistance for alternative water supplies. To date we have had very good uptake from land owners in the catchments.

Nathan Cruickshank

MANAWATU-WANGANUI

The Horizons team and Landvision are still flat out preparing Whole Farm Plans under the Sustainable Land Use Initiative. Our target is to have 80 done by the end of June. That's in addition to the 46 done over the previous two years. These are comprehensive whole farm plans with a financial analysis and full farm-scale land use capability and land resource inventory maps. So far we are mostly on target for this big task. This year's crop of plans covers over 60,000 hectares. Implementation of the plans is beginning gently. We expect things to speed up a bit once funding available for carbon farming and forestry becomes clearer.

Sharn Hainsworth has been producing soil and site assessments for resource consents and private plan changes in the Horowhenua and Hawkes Bay.

He is also working with Landcare Research consulting about development options for Atihau-Whanganui Inc and to help

produce the new S-Map that stretches from Masterton to around about Woodville. Other activities include conducting soil and site assessments and producing designs for on-site domestic wastewater and stormwater management systems in the Central Plateau area, along with conducting basic geotechnical reports for house sites in the Central Plateau area in conjunction with Paul Gellatly, a local Civil Engineer.

Malcolm Todd

HAWKES BAY

A slightly quieter few months have ended with much needed rain in Hawkes Bay and a hope that the rural areas will build up good stock feed for the winter. No shortage of time fillers for busy land managers though and **Garth Eyles** has had his head down getting a project proposal together for a renewed poplar and willow breeding programme. Garth leaves us upon his retirement soon and has written a job description for his replacement which has been advertised widely.

Andrew Curtis has been working with horticultural businesses on the Ruataniwha Plains (southern part of the region) and is their main technical information link to councils regulatory staff. He is also working on a frost protection programme with more information coming forth soon.

Joe Devonport took the long way home recently after coming off his racing cycle at high speed. Two hands in plaster and a few other injuries made life a bit slow for a while. However he's now back doing a 30 year management plan for the Tangoio Soil Conservation Reserve.

Our newest land management recruit **Ian Millner** has already had his induction and is right into it. As a current farmer he is a valuable member of the team with some pragmatic views on Carbon in particular.

Warwick Hesketh organised the recent LUC course held in Hawkes Bay and has some good wetland and dunecare projects going on.

Peter Manson has also been working with Garth on a new erosion and sediment reduction project proposal for Wairoa district. He organised the recent annual study trip for poplar and willow nursery managers which was well attended.

Neil Faulknor has been spreading himself between QEII, wetland, soil conservation projects and a lifestyle block field day.

Steve Cave has been auditing dairy farm riparian management for the clean streams accord and is well through the list now. He has found a reasonably high level of uptake. Steve has the unfortunate job of having to accompany helicopter spraying of willows on the Pekapeka wetland. This has been successful, but will probably need lots of followup.....

Peter Manson

TARANAKI

What promised to be a season like "no other" with the payout at \$6.90, has been tempered by drought. The worst affected areas were the South Taranaki and Eastern Central districts, resulting in an official declaration. Ironically, cows from South Taranaki farmers have been sent to Hawkes Bay with farmers paying \$14 per week for grazing and \$25 per head to get them there. Many herds had to dry off early, with the less affected ones managing to stay on once a day but using all their autumn supplements up.

Taranaki has approximately 60 water takes from surface water for irrigation and these were all shut down at the end of December - apart from a couple that had dam storage capacity. During the drought, most rivers had been at, or below MALF, with the Waingongoro River at its lowest since records began 30 years ago.

The drought has definitely broken now and we have experienced some flooding recently as a result of heavy falls of 50 - 90mm in the national park, southern flanks of the mountain and its northern ranges. The main event occurred on the 30th April with intensities of up to 60mls an hour, causing the Stony River to rise and fall by 5 m with the top 2m peak being up and down within an hour. The highest ever flow of 500 cumecs was recorded for the Stony. This event has kept **Dex Knowles** awake all night as the Stony River jumped out of its channel in two places, narrowly missing the Local hotel, and relocating the recent engineering works in the channel.

Don Shearman is focusing on initiating a trial tender for contract planters. Five blocks of 5000 each have been tendered out to encourage and provide more certainty for contractors to enter the industry. Landscaping, concreting and ripper rugby takes up the rest of his time.

George Powell has joined the hillcountry team and will be rejoining as an NZARM-er. After leaving Horizons, George returned to Te Kuiti as a contract fencer

for a few years and is now back into the soil conservation game.

Jason Loveridge: Having spent the 2007 European summer in Switzerland in the Canton of Graubunden in a small village up in the heads of the Rhine river visiting my wife's family I took particular note of all the soil conservation measures that they had implemented and of the farming which had changed even since my first visit to Switzerland. Having already spent long periods there on my OE some years back, it was only now having spent a few years in the soil conservation field that I appreciated the amazing structures and works they had done.

Of course they have been a country for 700 odd years and about a fifth the size of New Zealand so much more populated than us with very different geology to here in Taranaki. We were high in the Alps about 1300m above sea level surrounded by traditional farming villages and ski resorts. They almost entirely survive on tourism skiing in the winter, hiking in the summer.

Farming is still very traditional and heavily subsidised although this is being reduced, but it also could not survive without it. It is vital to maintain the Swiss image for tourists. A lot of the farmers see themselves as caring for the landscape rather than producing massive amounts of product. They use no artificial fertiliser and are required to allow the native flowers to flower before mowing their hay. And of course all their animals are housed indoors throughout the winter. They face massive environmental and animal health scrutiny far more than in New Zealand; they have thousands of tourists on their door step throughout the year. They also face massive issues with regard to the future of their industry with hundreds of farmers exiting farming altogether.

The railway is at the bottom of the main valley along side the Rhine River with villages at different levels within the Alps. To protect the infrastructure, roads, villages, railways ski resorts, farmers' tracks and paddocks, structures are put in place from high in the alps to the valley bottom below. They seem to spend what it takes to get the job done and there are no short cuts.

High in the Alps they put steel structures in place to prevent avalanches; they selectively log forests throughout the Alps slopes. Gully systems and watercourses especially those that run through or near villages are heavily modified to protect the infrastructure. Huge concrete debris dams fortified banks. Many of the valley systems have massive dams for electricity production. The roading is constantly being upgraded with water carefully controlled. There are cut-offs every 20m on some roads and tracks with silt traps on everyone. Trees also play an important part in river bank stability and slope stability but unlike New Zealand these are generally very well maintained.

This is just a very brief overview of some of the things that I took note of and saw. We could learn from many things they do and the ways they do it. We have modified our environment for 150 odd years they have been doing it for 700.

Darren Scown has been busy organising the riparian dispatch sites and labour and is about to head off to inspect plant nurseries that are contracted to supply. Over 200,000 plants have been sold by the end of April with only 30000 to go. Darren is lucky to be with us because the unthinkable happened just after Christmas. He hit some wet tar on a tight corner travelling at superbike speed – as you do when you have the latest KTM bike. Darren did all the right things when you are tumbling and sliding along the tarseal at high speed with the bike on top of you – hope like hell you live! He managed to come out of it alive and with only a broken leg and bruised ego. Even Rossi falls off occasionally.

Kevin Cash is still busy developing Council's new poplar nursery and the 11500 cuttings planted this spring achieved growth over 2 metres on some of them since planting in September. Kevin is also busy organising earthworks to develop the site so it can be used to dispatch both riparian plants and poplar poles. His house is also progressing well.

Biodiversity

Council has recently undergone an exercise to determine how its biodiversity objectives can be resourced. There will be synergies with existing programmes that are already achieving biodiversity benefits, but there is also further targeted work that requires additional resources. Biodiversity Plans have been developed and trialled and depending on the issue of focus, land management officers or animal pest management officers will champion their cause. Our proposed biodiversity strategy has been written and a workshop with stakeholders has been held to receive feedback and get future possible direction.

A German student is nearing the completion of the fieldwork for her masters thesis on the increase (we hope) in biodiversity through the implementation of riparian management. The monitoring method was designed by **Vicky Froude**.

Greater bindweed (*convolvulus*)

Over the past few years we have been concerned at the levels of bindweed *Calystegia silvatica* (common names: greater bindweed or *convolvulus*) present throughout the region, particularly along hedges, riverbanks and recently retired riparian margins. Bindweed has extensive rhizome root systems and is often difficult to detect when riparian plans are being prepared as it is deciduous and dies back over the winter

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period. Along unfenced margins, it stays at ground level and is quite edible to live-stock so is often barely visible and is not considered to be a problem at this stage. Unfortunately, bindweed loves to climb and once fencing has been implemented, fenceposts, fencing wire and shrubs and small trees provide a framework for it to spread. We are beginning to investigate options for its control but are interested in whether you currently, or in the future, view of this weed as a problem.

Carbon farming seminars

Council has organised 3 public seminars on carbon farming. Sessions in North, Central and South Taranaki have recently been held with good attendances of 60, 90 and 50 people respectively. The format for the day using powerpoint presentations has been to: outline NZ's climate change policy and how that fits into its Kyoto commitments; then to bring in MAF to explain the details of the Emissions Trading Scheme - forestry, Permanent Forest Sink Initiative and the Afforestation Grant Scheme. After the MAF detail, we have allowed a private company to outline what opportunities they see for carbon and honey farming on marginal land and the services that they provide. A Land Management Officer then outlines how we can help through our farm planning service - LUC mapping to identify marginal land and the effects of removing it on the farm's production system. Also the provision of GIS shape files etc. to measure areas under consideration. After this, another private company talked about the benefits and opportunities that redwoods present with carbon sequestration combined with soil conservation (coppicing ability). Barbeque and drinks for further questions and introductions. The format has worked well but there has been some interesting lessons learnt.

Don Shearman

CANTERBURY

Hi from the Canterbury region – it's always interesting to decide what sort of information and update we could provide to other NZARM members. For this edition of Broadsheet I thought that others might like to hear a bit about what some individuals are working on at the moment. The following people have kindly provided information. I am sure this is but a glimpse of the diverse range of topics, activities and issues that are underway by Canterbury NZARM members - If you are interested in knowing more about any of the activities mentioned than I am sure we can hook you up with the appropriate person.

I am currently working with landholders and communities in several areas of South Canterbury in partnership with **Melanie Schauer** and **Sam Shannon** (soon to be members of NZARM). The establishment of networks with those that have to manage the lowland waterways on their properties is an interesting area to work in and not without the odd challenge. The promotion and advocacy of riparian management verses the implementation is not always an easy transition as there always seems to be something that gets in the way in action be that from a council or landholder perspective. It would be great to hear from others working in this area around the country – What's worked in knowledge transfer from you, how many ways can you highlight the growing need to change practices in waterway management? What works in getting rid of the barriers so that we get sustainable practices happening and some more action on the ground etc. Enough ramblings from me and on to some of the activities of other Canterbury folk. . .

Shelley Washington is continuing with actions and the coordination of activities associated with being the ECan liaison person for the Avon-Heathcote Estuary Ihutai Trust and the Lyttelton Harbour Issues Group. The Ihutai Trust work involves assisting to manage a number of projects, the one that will be taking most of my focus is managing a project to identify the Ngai Tahu historic and cultural values of Ihutai, from which there will be a variety of activities, and forms part of ongoing relationship building between the group and Ngai Tuahuriri and TRONT. Lyttelton Harbour Issue Group is particularly focused on issues of sediment and stormwater runoff from subdivisions and roading on the steep hillsides of the Lyttelton Harbour basin. Shelley's other main areas of work are the coordination of activities for Resource Care team & other sections of ECan in terms of our water care strategy (Living Streams programme, water user groups, and Waterwatch). The Living Streams programme in particular is undergoing some changes, and the role of water user groups in Canterbury is becoming increasingly important. She will be spending some time with fellow ECan and CCC staff to encourage fencing and planting in the Otukaikino catchment

Mark Bloomberg is currently finishing a PhD in forest ecology at Lincoln University, and expects to submit his thesis at the end of May. The plan after that is to do some contract work modelling climatic effects on dairy cow welfare for AgResearch, while applying for any likely post-doctoral scholarships that show up on the radar. He is definitely looking forward to losing his student status and (hopefully) joining the ranks of the gain-

fully employed.”

Peter Weir has had a hectic month speaking at workshops on forestry aspects of NZ's proposed Emissions trading scheme, as well as continuing involvement in one of the technical committees serving the Climate Change Leaders forum. NZARM members' attention is drawn to a recent MAF report on economic implications of the ETS on various NZ farming systems. Refer www.maf.govt.nz/climatechange/reports/Projected-Impacts-of-NZETS.pdf

NZFOAs Environment Committee is soon to meet with MAF to discuss the regional deforestation and Carbon sequestration tables now out

Peter also represents forest growers on the EECA Bioenergy initiative, (refer www.bioenergy-gateway.org.nz) with his employer forestry company Ernslaw One Ltd busy setting up a Bioenergy business to supply wood chip and wood pellets from harvest residues, with operations starting in Naseby in north Otago.

In his spare time, Peter Weir continues to represent forest growers on MAF's Primary Sector reference group on the Sustainable Water Plan of Action, committing the sector to build on NZFOA's new Environmental Code of Practice:

- By December 2008 all forestry contractors operating on members' land will have a field copy of the relevant Best Environmental Management Practices section of NZFOA Environmental Code of Practice.
- By December 2009 all forestry contractors operating on members' land will comply with the compulsory rules in the Code.
- Forest owners will support field trials of how environmental impact mitigation methods, like biochar, may be incorporated into common agricultural systems.
- Forest owners will assist MfE develop, by December 2009, a National Environmental Standard (NES) under the RMA for plantation forestry activities. The NES will establish guidelines for activities designed to protect water quality during normal forest establishment, management and harvest operations.

Refer www.fitec.org.nz/COP/Contents.htm for an on line version of the NZ-FOA Environmental Code of Practice

Judith Earl-Goulet

WAIKATO

Therese Balvert: The last couple of months have been very busy with many Clean Streams enquiries, and field/information days.

The coming weeks will be largely taken up with running the "Native Plant Supply Programme", and processing end of financial year grant claims (as I am taking all of June off!).

Gabriele Kaufler: Some successes on the nutrient management front:

Our first year's trials growing maize silage on the effluent block of four Waikato dairy farms have produced staggering results: No yield differences between the crops grown with nil fertiliser, compared to starter only and starter plus side dressing! Yields were pretty good at around 23 - 26 t DM/ha which is great considering the drought conditions we experienced in the Waikato this year.

So, we seem to be on track proving the concept that effluent can be utilised to grow maize crops and to save on fertiliser big time. Soil test results will be analysed and a farmer workshop is planned for winter. Farmer comments are extremely positive - hopefully this will encourage adoption of best nutrient management practices around dairy effluent. As an aside, this enables a sound discussion about nutrient requirements for maize, too :))

More on the juicy topic of farm effluent:

We have managed to secure support to develop an Effluent Code of Practice which will include industry standards on design, training, accreditation etc. A long way to go but it all starts with the first steps.... Watch the space and give me a call if you want to find out more.

Emily O'Donnell: An increase in the up take of works has led to the appointment of a new Land Manager for the Coromandel Zone. Matt Highway joins the team, from EW monitoring programme. The zone will be split across the middle with Matt covering the north and me the south.

Harbour and Catchment Management planning has been a focus for me this year with involvement in the draft for Whangamata, and the writing and researching for Wharekawa (now in its final edit stage before peer review). These plans will provide the direction for most of the works for the southern Coromandel. Scoping has begun for the third plan.

The Coromandel, for once, has been grateful for its high rainfall level, with farmers

in a more comfortable position heading into winter than their Waikato colleagues. This is not to say that the drought effects have not been felt, add to this the increase in cartage costs for stock, dry stock farmers and having to look at other income streams. Here's hoping they can avoid the lure of the development dollar and continue to farm the peninsula.

On less of a work note, the summer saw plenty of good king fish being caught around the Mercury bay and snapper in good numbers in close. Cray fish were in good supply and the scallops in good condition. So if you find your self on heading up this way, be sure to call in to the office.

Ross Abercrombie: The Upper Waikato ICM project is going well with lots of farm plans in progress. We have now also worked with AgResearch to provide financial analysis of nutrient mitigation strategies within 2 some of these farm plans. While this is gold when talking to the community, it does highlight the need for better technologies around nutrient management, as wintering off or organic production were the only 2 mitigation scenarios that significantly reduced leaching without hampering gross margins. In saying this there many more technologies available and we are looking at how to optimise these with each farm plan.

The key focus for ICM for the rest of this calendar year is to increase our number of farm plans produced significantly. This is our core line of engagement in the catchments but we will also create a catchment plan for each catchment and undertake field days and media to inform the catchment community. This work is still intended to plug into the Upper Waikato policy review at a later date.

Tane Desmond

BAY OF PLENTY

Simon Stokes is up to his eyebrows at Environment Bay of Plenty, getting stuck into his Managers role and getting new ideas up and running. One excellent and timely idea he and **John Douglas** arranged recently is Land Management Training for about 30 Environment Bay of Plenty staff; three new land management officers, consents, pollution prevention, planners and others. JD and **Norm Ngapo** ran the two days of training with **John Whale** doing a cameo appearance covering the intricacies of the Regional Water and Land Plan policies. We had presentations in the mornings with field trips out to see and discuss what we had covered in the afternoons. We started

with Norm giving us a background to the Bay of Plenty; geology/lithology, soils, vegetation cover. Then John went over the policy expectations of the Regional Water and Land Plan. Norm covered the common forms of erosion in the Bay of Plenty, starting with a discussion on rainfall intensity effects and working through surface erosion issues of the 'free and easy' ash soils we have in Western BOP/Rotorua. We spent some time looking at gully erosion issues and possible solutions, relating them to tephra/ash and sand country lithologies. We then covered earthworks related to farming and forestry operations, tracking and stream crossings and harvesting, with JD telling about examples that worked - and others that didn't. In the afternoon on day one we went out in the threatening rain to check over a forestry operation (photos 1, 2 & 3). The day ended with welcome nourishing pizzas with beers, chips with beers and beers with beers.



Photo 1



Photo 2



Photo 3

On day two, following attention to re-hydration, we covered riparian manage-

Regional round up (continued)

ment; the different objectives that farmers or foresters may have from regional land managers and regulators when looking at riparian options, and how to work through with the landowner for possible win wins. Norm and JD then took us on a voyage to LUC land, giving an excellent overview of both the mysteries of the inventory codes and LUC classes as they relate to BOP.



Photo 4

The afternoon field trip was a highlight looking at a detention bund [not a dam] and fluming options to arrest a serious looking head-ward erosion issue on a recent forestry to farm conversion (photo



Photo 5



Photo 6

4). We then looked at some of the powerful erosive forces at work in streams in the Matata area (photo 5). We went up to Mimiha Ridge and had a look at various examples of land use on some Class VI land and the success or otherwise of different land management techniques on pastoral land uses and a small forestry block (photos 6 & 7). To end the day we went to view some rare coastal Kanuka and discuss land management issues on coastal dune country (photo 8). All in all a damn fine effort all round.

John Douglas reports that a lot of new staff are now settled in at Environment Bay of Plenty and a range of training days have been organised for them starting with three days of Land Use Capability training with Simon Stokes in the Hawkes Bay. The two day Land Management Workshop in Whakatane discussed above has been completed and next on the list are earthworks and sediment control training days in the near future. Identification of potential slip prone areas and formulation of preventative methods to reduce problems will also take place with a range of scenarios discussed during field visits. All in all a busy time for the new kids on the block who are now engaged in land management in the Bay of Plenty region.

Robyn Skelton is cranking up to full speed after almost six months in her new Land Resources Western Management role at Environment Bay of Plenty. She is working on a number of programme reviews in the community and partnerships area. One of these is the reshaping of the Estuary Care Programme as a result of a community-driven need. Another is the exploration of a Working Review for the successful Coast Care Bay of Plenty Programme.

Ross Bawden continues to manage forestry marketing and harvesting operations in the southern and central North Island and Auckland/North Auckland areas. As with many foresters, Ross has been concerned about the large scale de-forestation throughout the country. Of even more concern is the almost total silence of our politicians and environmental agencies. Having said that, Ross is not averse to rec-

ommending and/or doing the same where appropriate!!

Whilst forestry economics form a small part of the reasoning, it is unfortunate that a key driver is the sheer difficulty of complying with some of the more radical (or is it irrational) environmental requirements of some regulators and the very high risk of enforcement action despite how hard one tries to comply - particularly when black this week is all too often white next week. In short, it is very difficult to advise a sole trader or partnership to invest in forestry going forward and it is a long time since Ross, or a number of his compatriots have recommended forest planting in other than the most environmentally benign sites - unfortunately this is not where the need for tree planting is most urgent.

Dell and Ross have just harvested their second Kiwifruit crop and very much enjoy the change in focus and the start of what they hope to be their retirement fund.

John Whale



Photo 8



Photo 7



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Next issue...

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