

ISSN 1172-9139

BROADSHEET



**NEW ZEALAND
ASSOCIATION OF
RESOURCE
MANAGEMENT**

July 2006

NEW ZEALAND ASSOCIATION OF RESOURCE MANAGEMENT
Executive 2006-2007

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Broadsheet is a newsletter of the New Zealand Association of Resource Management. Authors must be consulted before their articles are cited in publications.

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. Unless specifically indicated otherwise, opinions expressed in the Broadsheet are not to be regarded as the official view of the Association. Copy sent by E-mail is preferred, although typed copy is also acceptable. Items can be sent to:

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Editorial

Dear All,

What interesting weather we've been having of late.

I'm told these things go in cycles, so we might be going through a period of more frequent storms, floods, and the old favourite, hill country erosion. Or, depending on who you choose to listen to, it's all down to climate warming so we'd better get used to it. More storms, more floods, and more erosion. Either way, soil conservation and erosion control seems to be getting a little more attention of late. It's just a thought I had when reading Norm Ngapo's letter to the Editor.

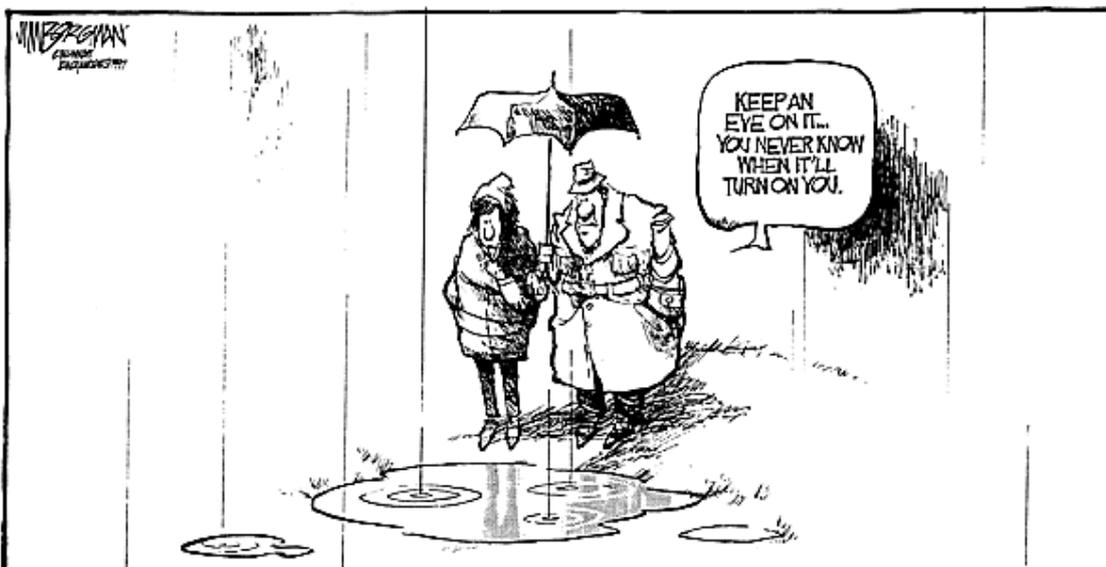
Anyway, welcome to your next exciting instalment of Broadsheet! Apparently readership has jumped from five to six regular readers, and I've managed to gain a reputation of being a nag (see the very colourful Lee Whiley's Letter to the Editor). Goes with the territory apparently. But, if anything, I'm probably more of a hypocrite than a nag – prior to the much sort-after role of Broadsheet Editor, I never once submitted any material whatsoever, and there was more than one occasion when Broadsheet was filed under the 'might read this later' section. So karma's getting it's own back, but I'm sure there's quite a few readers out there - who just me in the past - couldn't give a brass razoo for Broadsheet, and submitting an article would be about as likely as Ma'a Nonu trading eyeliner tips with the likes of Griz Wiley or Collin Meads.

I'm all for improving Broadsheet. So is the Exec. But we're still scratching our heads about how to go about it. On that note I'll leave you to browse through this edition (or not), together with the thought 'what would you do to improve Broadsheet if you were in the Editor's shoes?'

Cheers

Andrew Manderson

(now a sucker and a nag)



Cartoon by Jim
Borgman
'sourced' from
www.enquirer.com/flood_of_97

*Well I thought it
was funny.*

Letter to the Editor #1 – Lee Whiley

Dear Mr Nag!

Yep nothing has changed since I was editor about a hundred years ago. It has always been a challenge to get material together. If all else fails I used to write the half of it myself putting down the first thing that came into my head then putting someone else's name to it. You can always use this as a back up strategy! Of course it is comparatively easy now with word processors and e-mail - luxury! When I was a boy we had to take it all in hard copy over to the neighbour, who just happened to be a typist, and have her type it up, proof it all, make changes proof it again, then off to the printer.

Great to see Dex Knowles honoured in the last edition. My enduring recollection of Dex was when we organized the "Three Bob Job". A Northland Regional workshop over a long weekend based in Paihia. Guests of honour were Bob Cathcart, Bob Miller (whose motel we were based at), and the now late Bob Preist. Dex made a late decision to join in, working till Friday night, catching a plane up to Whangarei airport early Saturday morning then hiring a car to drive on up to the Bay of Islands, all at his own cost. He said that the main motivation was to catch up with some of his long term mates in the profession! Now there's dedication for you!

Hey you guys should not be so hard on your own profession! There is a feeling I have always got from you that you consider yourselves as the poor cousins of professionalism with a bit of a chip on your shoulders. You should be proud to be part of soil conservation and / or the wider resource management field. It rocks dudes! It is one of the most important professions in the country and absolutely essential to the sustainability of our nation! You don't realize the caliber of people you are dealing with until you are on the outside looking in. I deal with property investors, bike shops and coffee clowns these days. A dodgy lot, they are all pretty much entirely motivated by profit and very reluctant to talk to you least they give away some commercial secret. I really miss the knowledge sharing and fellowship of my old profession. Guess you can take the boy out of RM but you just can't take the RM out of the boy! In the same vein really enjoyed last year's Hawkes Bay Conference which was a credit to Simon and the other organizers. Great to see some keen young blood coming through. Will never forget Neil Faulkner and his gooley gongs!

On a more sober note was devastated to read Murray Jessen's obituary in the last issue. Murray was an old colleague and fellow triathlete who struggled with fitness and injuries until he concentrated on his real passion of cycling. Owing a bike shop these days and doing quite a lot of riding myself I am fully aware of the dangers of cycling on the road. It is a risk you can minimize but never eliminate. My fondest memories of Murray were doing one of the country's first Urban Land Use Capability Surveys on Waiheke Island. On the Sunday morning we went for a run then skinny dipped at the infamous nudist beach just around from Palm Beach. We were like kids stealing chocolate from a candy store! We will miss you Murray, hope they have a good supply of red wine wherever you are.

Now as for that article in the fair dinkum section of the last Broadsheet from one Sir Bob Cathcart. Sounds awfully like my brother dodgy Lee Wha Lee. Yes he is keen on the coast and would have most certainly spent a lot of his time swimming it, running it, fishing it or surfing it.

He did have some very good training though from the likes of sir Bob himself who was his first soil conservator boss and with a penchant for toaharoas and particularly detailed farm plans along northland's west coast beaches. Think there was some confusion over tunnel gullies (tomos) and the toheroa breathing holes. Norm Ngapo is also a legend in these areas. It is said that he does not even have to be on land to do the job and can classify any land in the Bay of Plenty from his favourite fishing spots off the coast!

Keep up the good work dudes, especially you with the Broadsheet Andrew. You are all doing a great job! Say hello anytime at propertywhalee@xtra.co.nz or www.planetcycles.co.nz or on (027)2982938.

Sweet as,
Lee Whiley.

Letter to the Editor #2 – Norm Ngapo

LAND USE CAPABILITY ASSESSMENT AND THE NEW ZEALAND LAND RESOURCE INVENTORY

Can anyone enlighten me on whether anyone is learning how to carry out land use capability (LUC) surveys any more?

It is interesting to note that in the Bay of Plenty, three District Councils now use LUC assessment to assist in the detailed zoning of land for subdivision purposes. What is of concern is that there are not many people available who are able to undertake LUC assessments in the field. Furthermore, there appears to be little likelihood of LUC training in the future.

Is LUC used much by Regional Councils any more? If not, why not? What has replaced it, or is it not considered necessary any more?

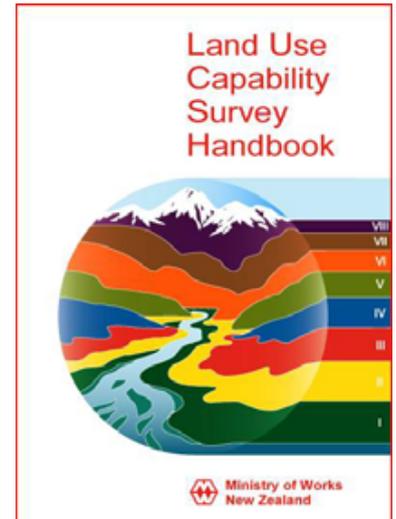
I am still amazed by the number of people within the Bay of Plenty who still refer to the New Zealand Land Resource Inventory (NZLRI) as a useful planning tool for broad based resource planning purposes. It is interesting to note that in the Bay of Plenty, the NZLRI was mapped in the mid 1970s. Most of New Zealand was mapped between 1975 and 1979. I am not sure whether there has been any updating of the NZLRI in New Zealand apart from the Gisborne District. While there is criticism of the NZLRI being out of date, the main factors that require updating are vegetation cover and erosion type/severity. The vegetation update is effectively picked up with the latest land cover databases available from aerial and satellite imagery. The erosion factor would need to be remapped to be updated.

I am aware of a certain member of our association (who will remain nameless, but is a prominent Land Management Officer at Hawkes Bay) has argued for decades that the NZLRI should be maintained as an important national database. I agree 100%. Unfortunately it appears as though public funding is not easily available for such purposes. Instead public funding is more readily available for the development of new techniques. That is all very well, but what about an existing database that is fundamentally very good and just needs updating on a regular basis?

Is there anybody else out there who thinks we should be updating the NZLRI and re-instating LUC training?

On a personal note, when I retire and go fishing every day, (rather than my occasional fishing trip that I currently enjoy) I would like to think that there are people out who are still able to carry out LUC surveys. I don't fancy doing LUC surveys for District Planning purposes until I am old and decrepit, because no-one else is around to do them!

Norm Ngapo



Eds note: Here's an open invitation for someone to do an update review of where the NZLRI database and LRI/LUC survey/classification system currently stands. Land & soil is slowly moving back onto the national radar, and there's already been some recent and substantial LRI/LUC developments. It's a pity that many new resource managers barely know that the system exists. The invitation goes out to anyone, but my first thoughts turn to a particular CRI and a certain senior land manager (who won't remain nameless - Hi Garth). If no one from the CRI stumps up, then someone from another CRI is going to pinch their opportunity.

Please get in touch with me if you want to prepare a brief article in case I need to coordinate responses (so Broadsheet avoids half a dozen articles about the exact same thing).

Just a few quick items in response to Norm:

- *Second edition mapping was completed for Northland (1985-1990), Wellington (1987-1992), Marlborough (1987-1992), Gisborne-East Cape (1995-1999) and apparently North Waikato as well (1980-1984) (according to the 1987 LINZ review of the NZLRI).*
- *The NZLRI is already a 'database of national importance' (or was last time I looked). Landcare Research gets a small amount of regular funding to maintain the database, but not enough for updates. However, its not altogether clear if Landcare R would actually welcome a nationwide update at the present time.*
- *A return to university-delivered courses is likely to happen next year.*
- *Horizons RC is leading several relevant initiatives, one of which may involve updating the LUC Handbook.*

Regional Roundup

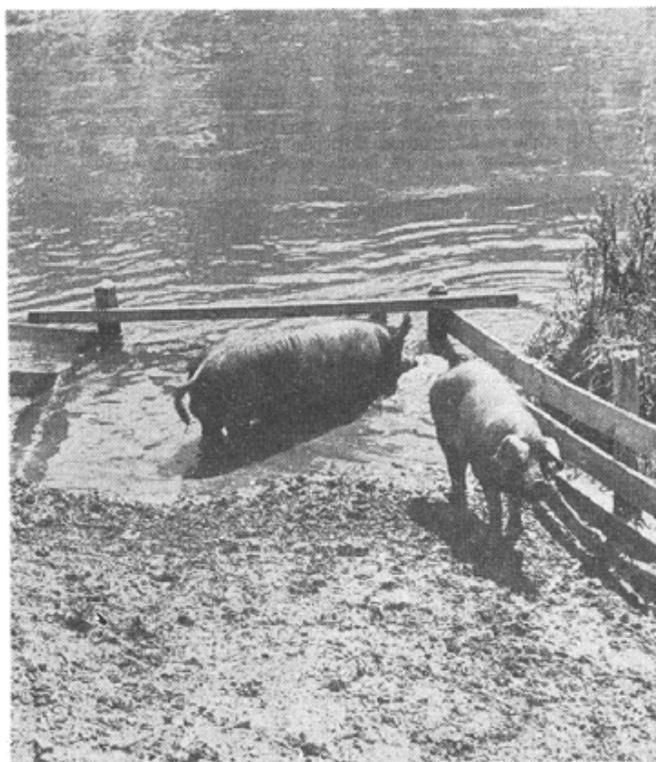
Bay of Plenty

Mike Vine who once upon a time worked for Environment Bay of Plenty sent in a report:

'For those who may have wondered, I am still alive, although in a retiring mode. While Helen and I now job-share (she earns the money and I spend it), I still keep my hand in by doing a bit of contract policy work for Environment Bay of Plenty's pest management crew. In the meanwhile, I now live in Thames as EBOP's spy in the Waikato.

On a more serious note, I am writing the biography of my father, Ron Vine, who was an agricultural journalist from 1934 to 1975. For all but the last five years before retiring he wrote for a number of periodicals as a freelance journalist, although his main publisher was always the NZ Farmer, of which he became editor in 1970. After the war he often wrote about soil conservation and river control, and attended, on invitation, the first annual conference of soil conservators and catchment board engineers. It has occurred to me that some of the old hands in the Association may have information or even memories they may be willing to share. Anything you send will be returned, my email address is: vine@xtra.co.nz and my home address: Mike Vine, 722 Mt Pleasant Rd, Thames.

Of interest (how times have changed) are a couple of photos (and captions) for your amusement. Both were taken by dad; the Thornton one in 1940 and the Katikati one in 1941. They were published in the NZ Farmer. Regards Mike.'



These pigs on the Thornton property farmed by Mr. A. Ruegg have the luxury of an ever-present bath of fresh clean water so that they, too, may be "daily dippers." The piggery is on the bank of the Rangitaiki River of Thornton, and each paddock is provided with a run like this into the edge of the river, which is fresh and clean. The pigs appreciate it, too, and almost live in the water, a la the hippo, during the hot summer days.

"How times have changed". Pic #1 from Mike Vine. Pig wallow on the Rangitaiki River (Thornton). Each paddock had a wallow.

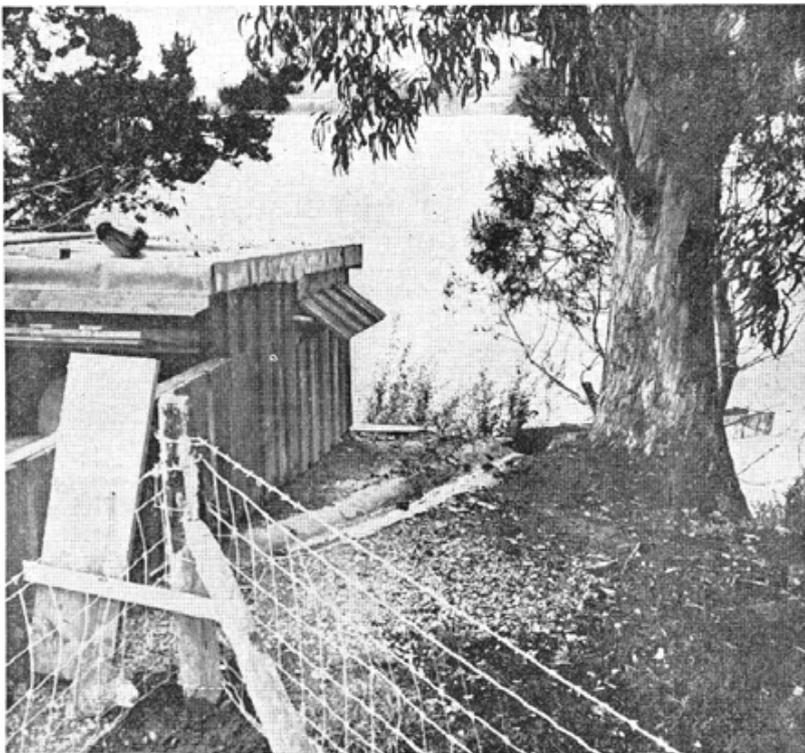
Not much to report from **Norm Ngapo** this period - He has been in Europe for the last 6 weeks visiting in-laws and checking out the local varieties of beer in Holland, Germany, France and Belgium. While wanting to check out numerous places of interest recommended by **John**

Whale, Norm had to contend with visiting just one small brewery which was set up in an old windmill. John spent a quite a time during his younger days in Europe which probably accounts for his ongoing liking for Grolsch beer. Incidentally Norm was unable to confirm or deny whether the leather hat that John bought in Morocco in 1973 is still nailed to the ceiling of Kee's Bar in Amsterdam. The story of how it got there – well it's obvious innit!!!!

Ruth Feist, John Whale and other staff at Environment Bay of Plenty are putting the finishing touches to the soon to be operative Regional Water and Land Plan. One last rumble (oops make that mediation) with a particularly 'interesting' customer to complete. Being pushy (oops make that tenacious about) getting outcomes without Court time seems to have paid off. Even got a thumbs up from Judge Bollard which made our day.

Colin Stace and his crew are working through a busy planting season, involving some 25 sites around Rotorua and 40,000 native plants. This includes blanking on one site invaded by sheep last summer. The farm manager insists the sheep did little damage however, and claims he has it from 'a reliable source' that hedgehogs devoured the plants. So watch out for those hedgehogs!

In the year ending 30 June, Rotorua Land Management processed some \$420,000 of Environmental Programme works. The bulk of this expenditure related to fencing and revegetation for riparian, watershed and biodiversity protection. While many water ways and lake margins are already protected in some way around the Rotorua lakes, the pressure is on get all lake margins protected by 2007 in accordance with the objectives of the new Bay of Plenty Regional Water and Land Plan.



Not many have the problem of piggy drainage solved as easily as Mr. E. Hough, of Katikati, Bay of Plenty. His piggy is flanked on three sides by a perpendicular bank at the foot of which is part of the Tauranga Harbour. A short wooden flume leading over this bank does the job.

"How times have changed". Pic #2 from Mike Vine. Piggy drainage solved easily... by directing it straight into Tauranga Harbour.

The Plan also includes stock exclusion rules for streams in the Rotorua lakes catchments and will be operative within a few months, so the local Land Management team is braced for an upsurge in demand for Environmental Programmes!!! Meanwhile Colin is working alongside Environment Bay of Plenty and Crown Research Institute staff on the development of a nutrient management toolbox to be integrated with Environmental Programmes. This includes running field trials on sites around Rotorua to examine management and (grass) species for filter strips.

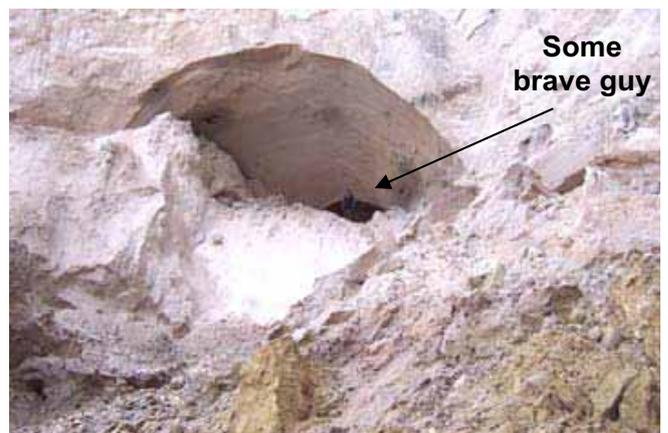
Wayne Smith has been busy with all his usual Land Resources work, but with a special focus on nutrient

loss prevention Best Management Practices, Environment Bay of Plenty involvement in the Meat and Wool Bay of Plenty region monitor farm (in the Kaimai's behind Tauranga) and biodiversity protection prioritisation projects. He has resurrected his 15hp outboard and has taken advantage of calm winter conditions to catch a few fish directly off Ohope Beach with Norm Ngapo.

John Douglas reports that the coastal pumice lands of the eastern BOP have taken a hammering over the past year. This began with the Matata storm event and has continued with extreme rainfall events in pockets throughout areas close to Matata. Typically 300 plus millimetres is falling over 12 to 24 hour periods. This is leading to the reactivation of historical gully head erosion. The erosion is also being exacerbated by harvesting of short rotation Eucalyptus production forests being returned to pasture. The erosion problem arises at the transition stage to pasture following harvesting. The harvest managers are unaware of the soils weakness and are carrying out harvesting activities which can be tolerated elsewhere. The new property owners who are looking at conversion to pasture are often from other areas who are also unaware of the potential erosion problems.



So, WHAT ARE WE DOING? Land management staff are visiting the problem areas and providing specific advice, design and costs associated with remediation works. We are also engaging Forest managers, Logging Contractors and landowners to convey basic soil and water principles related to the properties and methods to be used to reduce the erosion problems. Old soil and water handbooks have been dusted off as the remediation practices in them relate directly to these properties. In some cases properties that had these erosion problems resolved in the past now have the same problems again.



Glenn Sutton has returned to gainful employment as an environmental consultant on the staff of Ross Overington Ltd, a local surveying company. His main job is preparing subdivision applications, which currently appear endless. He works three days a week, which allows him time to feed the Dexters, hens (not chooks!) and kune-kunes as well as managing the orchard. Glenn is also continuing with some consultancy work for a few, selected (i.e. "good paying") clients. Another NZARM identity, **Norm "Hans" Ngapo** is also involved with some of the subdivision applications. Glenn is also busy with his role as a Trustee on the newly formed Whakatane Kiwi Trust. He has taken up a new interest, that of working with Clydesdale horses and has recently purchased an elderly Clydesdale by the name of Laddie and a vintage farmer's cart. His wife Janice who is a very competent horsewoman, is amazed at his sudden interest - Glenn even brought a new horse float at this year's Field Days and is still wondering at what he has done (it was supposed to be a boat!).

Andy Woolhouse has recently prepared the draft FSC Chemical Derogation application on behalf of FSC certified forest managers. These are nine chemicals which are currently used in commercial forestry and other land management activities. In some cases they are a major management component. Glenn Sutton has helped and there was great input from the forestry companies and associated bodies. They are currently being circulated to stakeholders. Other work includes consent work associated with the Matata storm repairs and some resource consent monitoring for Environment Waikato. For those that are interested, the Forest Operations Environmental Guidelines which Andy and Glenn were heavily involved in is now out for consultation. The name is likely to change before they are released.

Andrew Wilson and his wife Julie have just added to their clan with the birth of a daughter Aanya - a Russian name because dad was in Russia when he found out the a baby was due. Aanya was unfortunately born with a major heart defect so the first month of life was spent in Sydney's Westmead Children's hospital with two lots of open heart surgery. Aanya is now a happy healthy baby. Dad totally forgot about work during this period and is now slowly getting back into it.

Suzy O'Neill started in the new position of Estuary Care Officer as of April this year. Based in the Tauranga office of Environment Bay of Plenty, the role of the Estuary Care Officer is to assist Estuary Care Groups to achieve sustainable management for their estuaries. After working as the Coast Care Officer for Environment Bay of Plenty, the sand shoes have been swapped for gumboots for field inspections.

There are a lot of interested sections of the community to meet, as estuaries are in focus from population pressures and coastal land development. While a lot of this focus is directed at removing the rapidly spreading mangroves, a symptom of harbour sedimentation; this is being used as an opportunity to educate the wider community of the value of estuarine environs and their catchments. This involves lots of meetings with the community and visits to their estuaries to see their issues.

The Estuary Care Groups are given assistance to prepare their Resource Consent applications to manage mangroves as well as resources to assist with animal and plant pest control and native plants. More Estuary Care groups are forming in the wings; preparing management plans,

undertaking base line monitoring, learning to observe and monitor birds. This position provides links with the other Land based Care Groups, many of whom are made of upper catchment land owners and in bush gullies which bring Care Groups activities right down to the harbour forming native 'bush corridors' which works towards achieving holistic catchment management with a motivated community. The Estuary Care Officer also works with statutory partner agencies, i.e. City and District Councils, NIWA and DOC, encouraging a 'team' approach to dealing with modern estuary management. There are many other agencies/groups/facilitators that we work with as well to achieve the 'holy grail' of Integrated Catchment Management.

Robyn Skelton continues to work with community groups wanting to take action in their areas. Many find resource matters daunting or are confused about who to approach for help, so her facilitation role comes in handy.

René Weterings reports that he is just on his way to Laos on Tuesday to do a soil con job there for a few months so will write something for us later on when he has something to report.

John Whale

Taranaki

Unbelievably, a storm struck Taranaki on the 5th to 7th July, with most of the damage concentrated in South Taranaki. Preceding the event, the area had already received over 100 percent of its usual June rainfall.

The storm cut a swathe from approximately the Tangahoe Valley (northeast of Hawera) down to the mid to lower reaches of the Waitotara River. Recorded rainfalls through this belt were generally heavier than those of February 2004 and resulted in higher flood levels in the smaller catchments. Over a 26 hour period, 115 mm was recorded at Ngutawera. Consequently, damage (riverbank erosion, pasture siltation and soilslipping) was worse than 2004. The Waitotara River peaked in the mid reaches at 10.8 metres compared to 13.5 metres in February 2004. Peak flow at the SH3 bridge (just above the township) of 2,000 cumecs was equal to and not less than 2004 but the amount of water entering Waitotara village was up to 1 metre less and only 3 houses affected. This can be attributed to 2000 metres of channel clearance since the 2004 flood. Unfortunately, a contractor was still completing another contract and his machinery was inundated with flood water and written off. Land Management Officers have been out and about visiting their planholders and to assess the extent of the damage.

The land management team is now fully staffed and consists of 3 hillcountry officers and 6 officers focusing on preparing riparian plans. Emma Ries, Julie Hill and James Annabel are the new recruits preparing riparian plans. We are on target to have riparian management plans in place for 90 percent of dairy farms by 2010. Of interest is the number of discharge consents for

dairy farms in Taranaki. Due to amalgamations etc. the number of consents has decreased from just under 2500 consents 10 years ago to 1965 for the present. 1022 dairy farms now have plans.

Don Shearman, has been busy making sure that 190,000 native plants get delivered and dispatched to good homes. So far the majority have been planted. I am also teaching some lucky individuals on how to operate the scheme. Hillcountry LMO's and myself attended the soil compaction on hillcountry soils workshop in Waipukurau. Thanks to the organisers and presenters for this excellent opportunity to learn more about the effects of soil pugging. This was followed up by doing a Visual Soil Assessment in the field.

Darren Scown, has been organising poplar pole harvest and dispatch. He is also renegotiating the lease for our present nursery and investigating other areas for new development. Apparently it is possible to do a wheel stand on your motorbike for 100m with your partner on the back.

Kevin Cash was lucky enough to spend a week in Aussie last month but unfortunately caught the Aussie flu on the way back. He has also joined the list of officers that have completed the nutrient budgeting course at Massey.

Jason Loveridge has been busy with several school and community groups that he facilitates riparian planting projects for. Jason is also on the Taranaki Monitor Farm and Farm Forestry Association committees, so has been fairly busy. Jason's run of defending the Stratford men's B grade squash championship title for the sixth time has come to an end.

Dex Knowles is now a Member of the New Zealand Order of Merit. This is a very distinguished and well deserved award. We just call him Sir Dex. Dex and the other 2 gong recipients were given a civic function to celebrate their achievements. Dex has had the opportunity to test the channel clearing of the Waitotara River as mentioned above but is also continuing with further clearance of another 2000m. Another one of Dex's success stories. The official day for Dex's retirement (14th July) has been and gone. When a replacement is eventually found, Dex will continue on as Special Projects Manager (part time).



Water quality results

Reports based on 10 years of regular state of the environment, biological and physicochemical monitoring trends show that at the least, Taranaki's water is maintaining its quality, and if anything, is actually improving.

While the Council's 10-year state of the environment monitoring data forms the basis of the reports, a survey of the ring plain taken 25 years ago by the Council's predecessor, the Taranaki Catchment Commission, has provided additional useful information for comparison. The physicochemical report shows that today's levels of nitrates and ammonia are substantially better than those of 25 years ago and probably reflect the changes in farm effluent treatment and municipal and industrial wastewater systems introduced over that time. Dissolved and total phosphorus levels have been stable over the past 25 years at some sites and have declined at others. The trend follows the pattern of heavy use of superphosphate fertiliser in Taranaki in the 1980's and a reduction in use since the mid 1990's. Bacteriological quality has been maintained

or improved throughout Taranaki over the last 10 years, organic contamination has been reduced, and levels of clarity and suspended solids have remained the same. An additional Cawthron Institute report showed that macroinvertebrate data statistically analysed for 60 sites showed a significant improvement in aquatic ecology and only one showed significant deterioration over the 10 years. Despite the increasing pressures on water quality noted in the region, the remaining sites were maintaining their water quality.

Don Shearman

Canterbury

At Environment Canterbury, things have been interesting. Excellent progress has been made with the Lower Waitaki Integrated Catchment Management Project. A non statutory management strategy has been developed by the community that sets out how they (as a community) would like to see the values inherent with the Lower Waitaki River managed. This plan comes with a set of actions that they will be implementing as a community. Some of which will be to seek funding for some various projects and research, and becoming involved in the statutory processes of ECan, the Territorial Authorities and DoC's conservation management strategy (when it is reviewed). The process has been fascinating to be a part of and it is an excellent example of community based planning.

Other news from Environment Canterbury is that **Dave Maslen**, is off to the big bad commercial world having accepted the position of Project Manager – Technical Marketing and Innovation with the New Zealand Merino Company. While a shift from Regional Council, the role is one that will provide an excellent insight into the working of primary industry and the market pressures that are faced. Dave sees the opportunity as important in balancing his career, which will remain strongly focused on the promotion and implementation of sustainable land management practices.

Chris Phillips has been away most of June tripping around - 3 weeks in Canada followed by a week in Oz. The Canada trip was largely to follow up on an internal fellowship in 2004 at University of British Columbia in Vancouver working with Hans Schreier on multi-media CD-Rom's for knowledge integration. In addition he attended ISSRM 2006 (a social science in resource management conference) and gave a paper based around our ICM social science work, was invited to a dialogue on Water in Cities that largely focussed on Canada's issues (a prequel to the 3rd World Urban Forum held the following week), spent a day in the field with Brian Carson a consultant who has been working on ways of quantifying sediment generation and delivery from forest roads using a simple rapid protocol. The weather was warmer than here - missed the big snows in Canterbury) but not really summer - just started as I left! In Oz gave an invited paper to a joint stormwater and erosion control conference on ground bioengineering and use of plants for Erosion & Sediment Control in NZ. Returned to NZ to hundreds of emails, meetings, PA's, looking after kids in school holidays and back to the normal routine.

Dave Maslen

Waikato

Nothing from Waikato this time around.

David Perry

Nelson - Tasman

Nothing from Nelson - Tasman this time.

Mary-Anne Baker

Otago

Nothing from Otago this time.

Nicola McGrouther

Marlborough

Nothing from Marlborough this issue.

Paul Williams

Gisborne

No Regional Round-up from Gisborne this time.

Peter Fantham

Northland

Nothing from Northland this issue.

Bob Cathcart

Wellington - Wairarapa

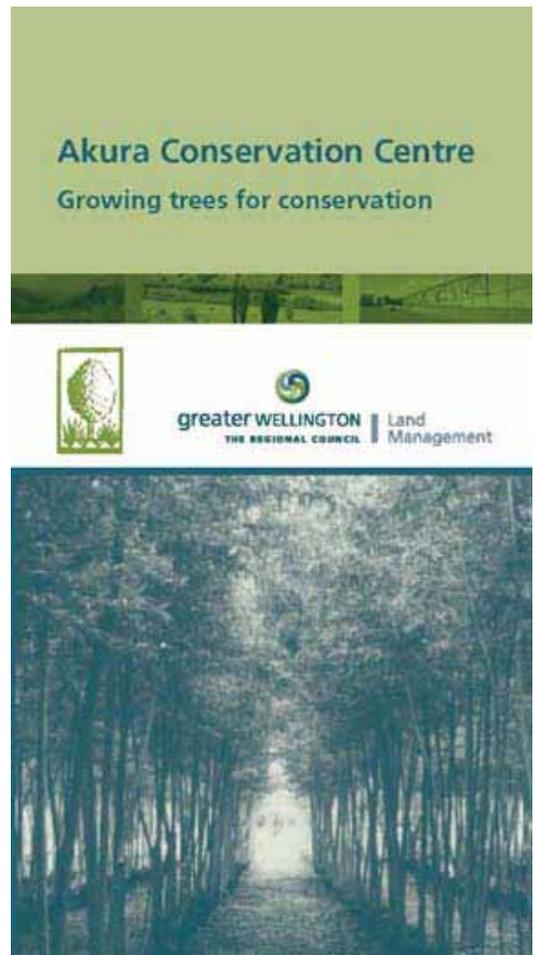
I missed contributing to the last Broadsheet so had better toe the line this time around.

Hey its winter and it's been raining. In some areas we have experienced in excess of 500mm in the last three weeks. Most of it fell over three days in early July, with one farm recording 490mm for the 72 hours. As a result some of the most prolonged flooding has occurred in the Wairarapa valley since the 1940's. Some two weeks later and floodwaters are still evident, such is the height of the water table.

Hill country erosion has been significant, albeit rather patchy in extent. Some areas are as bad as 1977 when the last major regional event occurred. Since February 2004 we have experienced very heavy rainfall (in excess of 300mm) and associated erosion and flooding on five separate occasions. These events have been general widespread rain up to 200mm, with high intensity cells dropping the rest over very short periods of time. This is a vastly different pattern to rainfall through the 1970's, 80's and 90's.

Up to our eyeballs with the planting season. Hopeful of establishing 23,000 poles, 150 hectares of conservation woodlots, 12km of shelterbelts and up to 4km of riparian planting. Weather conditions have slowed us down over the past three weeks but we should be all done by the end of September. **Stan Braaksma, Don Bell, Chris Ladd** and **Faith Barber** are the guts of the team ably supported by a Works unit and **Peter Cameron** at **Akura nursery**. Peter has been with the Wairarapa Catchment Board and Greater Wellington all his working life, starting way back in November 1962. That's 44 years of service and its due to come to a halt next March when Peter turns sixty five. Akura nursery is a fantastic asset for Greater Wellington and much of the credit rightly goes to Peter. He will be very hard to replace.

Integrated Catchment Management is appearing over the horizon and we will be navel gazing over the next 6 months to work out what it means for Greater Wellington. We have been involve with a very interesting SFFF project with Peter Handford and Associates, looking at ICM in the Waikanae and Pautahanui catchments. The project looks at the role of vegetation in the catchments as well as building capacity and knowledge in the community to undertake the implementation phases. Outcomes will include individuals and communities undertaking a range of planting programmes aimed a building better resilience into the catchments through conservationplanting, weed control, animal management and river management.



I caught up with Kevin Steel at the Farm Environment Showcase in Rotorua, then again when the Minister viewed our storm damage on the tail end of a tiki tour from Waitotara, and Fordell. He's obviously very busy in his new role. Enhanced Task Force Green has been rolled out again in the wake of the most recent event, but I can't help wondering if there is not a better way of providing support for landowners during the cleanup phase. Main problems seem to be that it requires significant administration, is slow to get off the ground and the skill level of workers is marginal to say the least.

Dave Cameron

Auckland

Firstly I would like to say that the “**ARC Angels**” Dragon boat team are looking forward to defending the Inter-Council “Hawkins Trophy” this season. Now that there is a new Regatta in Tauranga in January I wonder if we will see a few more council crews on the water? I know EBOP now has at least one experienced paddler!

Glenys Kroon is doing a great job as Team Leader Rural with all the recent internal changes here at ARC. Paul Begley and I are still kicking around and **Georgina Cranswick** has departed and is off on an OE through Asia and Europe (see ya Georgie). The team has had two recent staff additions with **Vanessa Vujcich** starting in April as a Land Management Officer and **Meinir Wynne** about to start in August as a Rural Compliance Officer.

Growers Evening

The Rural team have organised a very successful information evening for growers in Pukekohe. Approximately 85 growers attended and they were provided with an opportunity to question a staff from ARC, FDC and Environment Waikato over issues ranging from land use, subdivision, agrichemicals, water and sediment control. Councillor Dianne Glenn, Angus McDonald (Environment Waikato) and mayor Mark Ball also attended. Future industry specific meetings are being planned for other rural land user groups. These meetings are being organised as an alternative to the meetings previously held at the ARC for rural industry leaders, which have been suffering from declining attendance.

Regional Plan: Air Land and Water

Negotiations taking place with appellants. However the Plan provides the basis for current education and compliance work for activities such as sediment control from cultivated land and rural discharges.

Greenhouse nutrient solution disposal

The disposal of waste nutrient solutions from greenhouses continues to be a problem. A survey of a number of properties undertaken this summer showed that the average greenhouse is discharging 27m³/day of nutrient solution to the environment, with nearly half of the discharge locations being farm drains or streams. A Code of Practice has been developed with SFF

assistance. The Code advocates Nitrogen application rates of up to 30kg/ha/per 21 days, without nitrogen budgets. The ARC has asked for it's name to be removed from this Code of Practice.

Clean Streams Accord

In conjunction with Fertresearch, Dexcel and Fonterra, a field day was held for dairy farmers in the northern part of the region (Kaukapakapa) to discuss nutrient budgeting. This is part of the Clean Streams Accord and is consistent the commitments made in the Proposed Regional Plan: Air Land and Water. Assistance has also been given with non-compliant dairy farmers.

Te Hana Landslides

An extreme rainfall event on 30 November 2005 (325mm in 2 hours, 600mm in 24 hours) caused multiple landslides over an area of approximately 150 ha in the Te Hana area. Te Hana is located at the northern boundary of the ARC and southern boundary for NRC.

The topography is mostly rolling hill country and landuse is mainly sheep and beef farming. The area has not been previously prone to landslides.

NRC and ARC met with farmers, together with Peter Hansen from HBRC to plan a way forward. Farmers are keen to rehabilitate their land to maximize pasture production, rather than fence and retire affected land. ARC and NRC will provide advice on farm plans, and assistance with Poplar/Willow planting. The ARC has not advised on or undertaken Poplar planting for erosion control for several years and unfortunately the environmental initiative fund, which provides some assistance for environmental enhancement activities does not list erosion control as a priority and generally only supports the planting of natives. We have some work to do to up skill staff and address priorities.

Cultivated Land Sustainability (aka Franklin Sustainability Project)

When the SFF project finished in mid 2004 the focus of this project changed from educational to enforcement orientated. Progress has not been as rapid as hoped. ARC requires the installation and maintenance of sediment control dams for all cultivated land. Current approach involves site inspections, with non-compliant growers being offered the opportunity to present a property plan showing how and when compliance will be achieved as an alternative to enforcement action. Some growers have been issued with abatement notices & enforcement notices.

Mahurangi Action Plan

This project, started in 2004, to address sedimentation issues in the Mahurangi Harbour is continuing. A full time staff member has co-ordinated studies to identify the sources of sediment and support activities within the catchment to reduce the problem. Isotope studies have indicated that forestry contributes a high percentage of sediment to the harbour. To date 19 km of streams have been fenced, 31 000 native seedlings planted with substantial funding assistance. The catchment is a mixture of lifestyle blocks, sheep and beef farms, forestry and bush.



Trees for Survival

The TFS planting season is now under way. TFS is working with the Northern Gateway Project (the consortium of interests extending the northern motorway) to fund the development of a teaching resource to enable TFS to fit into the NCEA secondary school environment. The work with the Northern Gateway Project is a change of direction for TFS as it shifts away from its original focus of planting on erosion prone farmland.

That's all folk's.
See ya on the water!

Gwyn Morgan

Hawkes Bay

The land management staff at the HBRC are in winter working mode helping farmers with advice for planting etc and helping with the implementation of winter projects under the Regional Land Care Scheme. The council has increased the total fund so that means more opportunities for projects on individual farms, particularly on farm wetlands.

Simon Stokes ventured down south in May to present the NZDFA environmental awards with Fiona Lady Elworthy at the annual conference, with a pit stop to help **Dave Maslen** run a two day workshop on farm planning and the principles for and against the use of the tool. It was well attended and farm planning as a tool was laid bare by those enthusiastic and those not so. There should be a brief article in this broadsheet covering the results of the two days. Simon even ventured into the now famous 'handbag' pub, with Dave 'I've got my man bag' Maslen, but alas did not have to slap Dave once with it.

Neil Grant (DOC) has been assisting with representing the Department of Conservation's interests with respect to the applications for windframs on the the Maungaharuru and Te Waka Ranges; options for subdivision/development and conservation at Ocean Beach; assisting with information for evidence for the HBRC consent hearing for a proposed weir at Peka Peka Swamp; the development of the Horizons One Plan; consent conditions for significant water permits applications that the Department submitted on in the Tararua District; processing new and renewal concession applications; Seaweek; and supervision of volunteers doing conservation work at Ahuriri Estuary.

Iain Maxwell reports that Fish and Game NZ (Napier) have just secured funding for two significant wetland projects and a riparian project. The Biodiversity Condition and Advice fund has provided \$55K towards these projects, this combined with HBRC RLS funding and QEII support will see some significant work completed. The projects are:

- Lake Runanga - raise water levels and retirement fence several properties
- Cochrane's creek - retirement fencing and riparian planting

- Hurimoana Lake - this lake received some \$45K from the condition fund, HBRC on farm wetland scheme and QEII a couple of years ago. A management plan will be prepared this winter to guide further restoration activities.

The NZ Game Bird Habitat Trust, Fish and Game NZ and HBRC also funded a significant wetland project this year that Fish & Game have been coordinating. Purimu Lake in central HB suffered significant damage during the weather 'bomb' that affected the Manawatu in Feb 04? Funding was granted to repair the outlet and remove willows. This work was completed in late summer this year, just in time for the wet winter that HB is currently experiencing! This has created some problems that will be resolved this coming summer. Later this year we will also be aerially spraying willow and fencing parts of the lake.

Fish & Game's ongoing programme of providing guidance and advice to landowners wanting to create/restore wetlands on their land continues, as does our supporting role in the HBRC on farm wetland programme.

Jude Addenbrooke has settled into her pedologist / field rep role with Hatuma Lime in Central/Southern Hawkes Bay, and is apparently enjoying every minute of it. Dealing with dirt all day every day! Some of her time is spent with farmers and ag groups, talking mainly about the chemical-physical-biological processes within the soil, and how to work with them (and, of course, the benefits of the non-water-soluble, neutral dicalcic phosphate). She's been digging lots of holes, and seen some high quality soils, with deep rich topsoils, good structure, extensive rooting, and heaps of earthworms – the record so far is 118 worms in a 20cm cube. If anyone can beat that, let her know. She is currently setting up a monitoring programme, looking at a range of soils and management regimes in the lower North Island, and looking forward to a busy spring doing field work. Hopefully, we'll be able to put out some positive messages about the effects of good farm management practices on soil health and long-term productivity. jude@hatuma.co.nz
06 8588567

Neil Faulknor's activities over the recent past have been RLS applications and all the drama associated with that process. He currently has 42 on the go, which satisfies his work programme target of 40, but applications are still dribbling in. As usual, that number of projects equates to over 100 individual farmers with the two largest Landcare Groups involving some 50 farms between them. Our usual big headache at this time of year is trying to satisfy the demand for poles. Neil has orders for many more willows than we can supply, and there no longer appears to be any outside source for willow poles.

The pole delivery and planting side of our business has been made difficult over recent weeks by rain, rain, and more rain. Reports are starting to trickle in of lots of country on the move, but as yet Neil hasn't been able to get out and about to have a good look. More requests are also coming in for contract labour to plant poles, but there no longer seems to be any gangs out there. They disappeared back in the late 80's early 90's when times were tough, and farmers opted to save costs and do the planting themselves

One project that took a few days out of Neil's programme, was completing a record of the farm plans prepared in this area, right from the original Farm Plans, dating back to the early 50's, with

well known authors such as **John Hogg** and **Dex Knowles**, to the current new Enviro Plans and farmer authored Erosion Control Plans, prepared to satisfy Regional Landcare Scheme funding applications. With the area figures rounded slightly, there was 54 original Farm Plans, covering 22,300ha, and 37 Soil & Water Conservation Plans, covering 16,000ha. These were all prepared to the standard recipe decreed by the old national body that went under various names, such as the Soil Conservation and Rivers Control Council. We moved then to 2 page documents promoted by **Ian Cairns** and modelled on an old Waikato Valley Authority example, called Erosion Control Plans. There were 146 of these covering 67,500ha. With the withdrawal of central government subsidies, we toyed with a commercial plan we called a Landpak, but only 4 of those were prepared, covering 1,350ha, until we settled on our current enviro plans (22 covering 14,500ha), and the new crop of ECP's covering 11,500ha.

Another major report underway and almost finished is a report on the Mangakuri Catchment. Work has been carried out in the catchment since the beginning of soil conservation in HB. Again the reports feature some well known names including again, **Dex Knowles**, with **Robin Black** having a major input in later years.

A newer and interesting aspect of our work, involves the current emphasis on biodiversity. Despite my hardy annual contention that biodiversity is not an end in itself, such that you don't go out to create biodiversity, but it is the measure by which we determine that we are managing an ecosystem sustainably, the inclusion of native forest remnants, riparian areas, and wetlands, in our funding programme, has added greatly to the interest of our work.

Apart from all that, Neil says his days in the office are spent cursing jetstream, which disconnects him from the Napier office on a regular basis, and fielding phone calls about possums, homing pigeons being pests, rabbits in town vege gardens, maps of the rivers for trout fishermen, (ring the Napier office), dog chipping, building permits, drains, cemetery records, septic tanks, ring the District Council.

Simon Stokes

Southland

Water Plan Variation Out for Discussion

Environment Southland's long-term goal of improving water quality in streams and rivers comes a step closer this month when a proposed variation to the Regional Water Plan will be notified for public submission.

The Variation sets out the Council's intention to exclude all stock from surface water where practicable as part of a suite of tools for achieving key water quality targets. These are:

- A minimum 10% reduction in levels of microbiological contaminants, nitrate and phosphorus and a minimum 10% improvement in water clarity in hill, lowland and spring-fed water bodies by 2015.

- Southland will have beaten the non-point source pollution problem by 2015.

The proposal was given a wide airing earlier this year, and has been modified as a result of feedback received from the public, including farming representatives.

Senior Resource Planner **Rachael Millar** said that the Council has moved away from an initial suggestion of imposing a blanket stock exclusion zone for cattle and deer where surface water had high levels of contaminants.

“Instead it has been decided to target the land use practices where stock access to surface water has the most significant adverse effects – that is, intensive winter grazing.”

The variation proposes keeping stock being intensively winter grazed, at least 3 metres away from any watercourse.

Ms Millar said the Council saw the strategy as a first step towards total stock exclusion from surface water in the region.

“Landowners will be encouraged to adopt best management practices. As a minimum they will have to ensure that their stock management does not reduce water quality below the standards that have been set for whichever stream or river goes through their farm.

“In some situations, this will mean putting in temporary or permanent fencing and alternative stock water supplies.”

The Council has signalled it will introduce further regulation if this strategy does not achieve its water quality targets.

Environment Southland is offering to hold public meetings in rural communities to discuss the proposal, ahead of the submission closing date of 21 August.

Review of the National Pest Plant Accord

This item is prepared by ES Senior Biosecurity Officer (**Keith Crothers**). This is provided as it is equally interesting to land management officers.

Some of you may be wondering what is going on with the National Pest Plant Accord (the Accord) while others may not have even heard of it. So what is going on?

The Accord is a cooperative agreement between regional councils, government departments with biosecurity responsibilities and the Nursery and Garden Industry Association. It aims to provide surveillance for pest plants and enforcement of prohibitions against their commercial sale and distribution. Pest plants identified in the Accord are declared as being “unwanted organisms”.

The new Accord list has been approved and is due to be launched in September. The new list includes 49 new species and 4 new genera. Some species from the current Accord list have been removed but are still unwanted organisms.

Amongst the more familiar common name pest plants such as Old man's beard, Heather, Pampas grass, Ginger plant and Mexican daisy there are some rather exotic sounding ones as well. Things like African love grass, Alligator weed, Hornwort, Chilean rhubarb, Senegal tea, Formosa lily and Asiatic knotweed are but a few. And then there are the delightfully named ones like Monkey apple, Alligator weed, African pig's ear, Mile a minute, Cat's claw creeper and the Mickey Mouse plant.

After the initial Accord was developed in 2001, it was noted that there were some areas for improvement, most notably that of compliance checking by regional council staff. Part of the current review is addressing this very issue by providing those staff with a national training workshop and the development of a national compliance standard operating procedure. This will allow regional agencies across the country to bring their respective programmes into line on a national front. The NGIA and Biosecurity NZ are also working together to jointly prepare guidelines for plant breeding.



So keep an eye peeled in September for the launch of the Accord. In the meantime, if you are looking for any further information, check out the following link:
<http://www.biosecurity.govt.nz/pests-diseases/plants/accord.htm>

Bala Tikkietty

Manawatu - Wanganui

Things are getting busier at Horizons, particularly with implementing SLUI (the Sustainable Land use Initiative). **Grant Cooper's** Land Management team are focused on getting 40 whole farm plans written this year. These are top-quality whole-farm business plans, containing land resource inventory and land use capability information, nutrient management, economic analysis, a work programme and regular monitoring. Next year we will be preparing 80 more plans, and running the existing 40. Land Vision (**Lachie Grant** and **Sarah Dudin**) will be doing many of these on contract. The farm plans are currently on a mixture of high profile farms and in priority catchment areas, but will increasingly be targeted to priority catchment areas for erosion control to reduce sediment inputs to water.



We are advertising for 2 new Environmental Management Officers to help implement SLUI, one for the Manawatu area and one for Taumarunui area. If anybody is interested ring Grant Cooper on 021 2277093.

Malcolm Todd has just moved out of the Science team and into the Environmental management team to set up farm plan monitoring and audit systems plus implement the soil health programme. **Grant Cooper** and Massey University are setting up a Land Use Scholarship to encourage 1st year to post-grad students to study soils and environmental and farm management, and then to work in the SLUI initiative. Hopefully this will help address a skill shortage in this area that will benefit resource management throughout New Zealand. We also have a masters student **Sian Cass** studying factors influencing the adoption of farm plans. She has just completed a small study on the what can be gained from our existing farm plans to help write the new ones. A lack of support from government is hurting the amount of support we will be able to offer to farmers for land use change, but will not slow the farm plan programme down.

We are also organising a training day for Horizons staff, and any other Regional Council or other people interested, on the economics and site choice of alternative forestry species for our region. This will hopefully be delivered by **Ian Nicholas** of ENSIS with some help from local Farm Forestry people. Our tentative date is October 11th.

We will also be hiring 2 environmental education staff, they will do general environmental education as well as running the Big Green Rig. The Big Green Rig is an exciting new idea, to have a high-tech environmental education platform on the back of large truck, able to wheel out audience-relevant environmental education anywhere in the region. The proposal is gathering funding support.

The water quality and biodiversity team are concentrating on getting active management programmes started for the top 100 wetlands and top 200 native forest remnants, and implementing Clean Streams in 3 subcatchments; the Mowhanau, just west of Wanganui, the Mangapapa, behind Woodville and the Hukanui near Eketahuna.



Malcolm Todd

NZARM Trade & Exchange

What a fizzer this was. I'll put it in again if anyone has anything particularly special they want to track down.

From the secretary's desk

Tabitha Manderson

New Members:

Judith Earl-Goulet: Now working with Environment Canterbury as a Resource Care Co-ordinator. My qualifications reflect a grounding in geomorphology with a BSc (Hons) from Otago and a MSc from York University, Canada and several years of work towards a doctorate (since decided not to complete). Work history includes lecturing at the Southern Institute of Technology and Auckland University of Technology, topics including freshwater and coastal management, sustainable land management and a range of other related topics.



My main interest in relation to the field of resource management is one of equipping people to make wiser decisions about the utilisation of the resources around them. More specifically I have developed a desire to better understand, work with and hopefully equip those people and communities that are directly affected by government decisions and policies and non-government expectations and pressures. This has translated in me moving away from the provisions of education in tertiary institute settings to my current position (that and a desire to return to the mainland and re-establish my roots).

What have the exec been up to?

The Exec decided to take advantage of the recent successful regional meeting in Canterbury and have a face to face meeting. I'm told it took place in the back of the bus on the return trip from the field trip (probably explains why the notes are a bit difficult to read....).

The Association remains in a healthy financial position, and after some discussion it was decided to open another term deposit. These term deposits are on a 90 day maturity period, at the end of which the interest is paid into the main account. This means there is still a good pool of finances available to keep up with the Associations day-to-day running (printing of Broadsheet etc, like everything, costs have gone up in recent years) but also means there is money to pay for more regional meetings. So if you have any ideas or wish lists for regional meetings, contact your regional co-ordinator or any of the exec team to discuss.

Chris has been doing the hard work of this years conference, with the mix of other associations it should provide an interesting perspective on resource management that we might not normally get to experience.

The 2006 conference will be held in Christchurch and will be a combined meeting with the New Zealand Hydrological Society and the New Zealand Meteorological Society. "Resource Management under stormy skies: Water allocation @ the cross-roads?" Keep an eye on the NZARM website for more details (*Announcement follows this article – Ed.*).

Speaking of exec, this year is an election year! Ever thought about wanting to be involved in the inner workings of NZARM? Got ideas about what we should be doing or should be doing better? Well make sure you get yourself nominated to go in this years election for the Executive.

Not sure what going on the exec means? A new executive team is elected every two years, the Committee consists of President, Immediate Past President, Secretary, Treasurer and Ordinary Committee member (we can have more than one Ordinary Committee member). Currently we normally have two face to face meetings each year, often in Wellington or tying in with another event (such as a regional meeting or the conference), and phone conferences as and when needed.

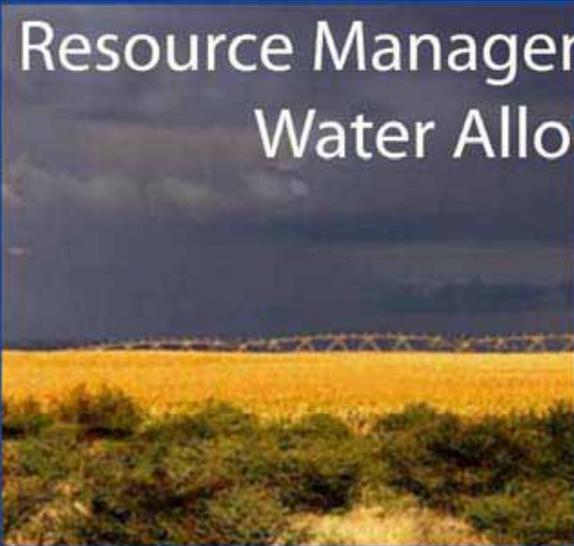
Call for nominations to be sent to all members – 7 October 2006

Nominations close with Secretary – 24 October 2006

Voting papers to be sent to all members along with Agenda – 31 October 2006

Announcement: 2006 Annual NZARM Conference.

Chris Phillips



**Resource Management Under Stormy Skies:
Water Allocation @ the Crossroads?**

A conference jointly hosted by the
New Zealand Hydrological Society,
New Zealand Association of Resource Management,
and the Meteorological Society of New Zealand

November 20-23, 2006
University of Canterbury, Christchurch, New Zealand

Photo: Livia Comandini - professional photographer.



The New Zealand
Hydrological Society



NEW ZEALAND
ASSOCIATION OF
RESOURCE
MANAGEMENT



METEOROLOGICAL SOCIETY
OF NEW ZEALAND

<http://www.conference.canterbury.ac.nz/rmuss/>

Call for Conference Papers

We invite abstracts submissions for the Conference programme along the following conference themes.

- Innovative water management
- Future land use options
- Integrating science, management & community
- Use of science within the RMA
- Future climates: science and management
- Air and water quality
- Resource measurement: issues, challenges and new ways forward
- Preventing and mitigating natural disasters

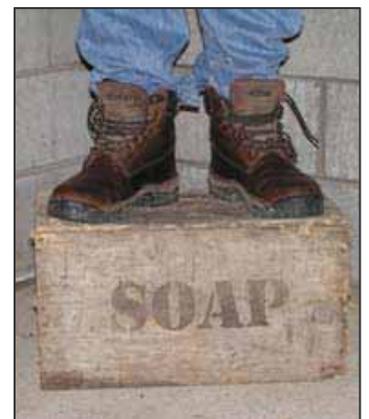
The deadline for submission is **31 August, 2006**. Authors will be notified of acceptance or otherwise by 22 September. To submit your abstract for the RMUSS Conference please ensure your abstract is formatted and saved onto your computer ready to be uploaded. Abstracts should be prepared in the proscribed format.

NZARMER'S – here is your chance to put a paper into the conference and tell people about the great work you are doing.

There will also be a great range of field trips on offer during the conference so put the dates in your diary now!

Soapbox rave – Andrew Manderson... again

No one sent in a soapbox rave this time around. I'm tempted to carry on the NZLRI thread started earlier, because I share some very strong opinions regarding custodianship, misuse & inappropriate manipulation of the database by people who should know better, and an over-reliance on digital/computer technologies instead of 'get out there and dig a hole' field work. And a few other things besides. Fortunately there's others more passionate than I, who have thought more deeply about the issues and what they mean to the state of resource management in NZ. Hopefully these people can share their viewpoints through a submission to the next edition of Broadsheet.



NZARM Regional Initiatives: Farm Plan Workshop Report

Dave Maslen

The Canterbury Regional Meeting was organised as a workshop aimed at understanding the principles and drivers behind *Environmental Farm Planning*. The meeting covered some of the existing plans that are being developed around the South Island and New Zealand, and provided the opportunity for land management professionals to share ideas and knowledge.

A number of speakers provided outlines of how their respective organisations viewed Farm Planning, or undertook a farm planning role. A summary of those presentations is provided below.

Max Enerson (PPCS), provided a meat industry perspective. Key points included:

- *Increased industry emphasis on QA from about '98.*
- *Customer drive, especially from UK supermarkets.*
- *Customers will come to NZ and inspect facilities and do this repeatedly, not just once.*
- *Initial emphasis was on animal welfare, but environmental performance and education is becoming increasingly important.*
- *NZ industry not necessarily yet fully compliant in all areas, as still developing the tools.*

Industries don't want 'bad press' arising from poor performance in these areas. They are beginning to go beyond being driven by compliance necessity and becoming more proactive, which may help with opening up new markets as well as retaining existing markets.

- *Key international compliance areas for meat industry include:*
- *fertiliser application/management*
- *water use/quality*
- *Animal intensity*
- *Animal shelter and stock health*
- *Waste disposal (plastics, chemicals, waste oil, vaccine needles, dead stock – sawdust composting)*
- *Disease/biosecurity - outbreak prevention and management (esp. TB)*

Education is vital - Ballance Farm Awards have stimulated great interest and commitment to learning. Regulation is not the sole answer (though OK for reigning in the 5% of rebels). In terms of environmental management, since the post catchment board era and (MaF farm advisors), there are not many places for farmers to go to learn.

Pam Richardson (farmer, Federated Farmers) presented a rural community perspective.

Banks Peninsula has many initiatives to support farm/environmental management, e.g., Meat and Wool Board monitor farms, pest liaison group, Banks Peninsula Conservation Trust, South Bays farm discussion group (engaged in benchmarking, 6-weekly sharing meetings, etc).

The Soil and Water Conservation Plan (1986), ECan/Catchment Board, for her property is the 'best thing out'. Based on an aerial photo, simple, good scale, relevant information which can be extended to include other things such as natural values, history, heritage. "Where have these plans gone"? In contrast, the Monitor farm reports are complex, computer based, quantitative and not so intuitive.

Partnerships: Need partnerships, not just an agency input. Personal approach, must involve farmers (they are the doers, owners, have much knowledge and hands-on experience). To enact change must start with the paddock and the farmers. Need practical examples, communication skills, and options to choose from.

Challenges: Intellectual Property and ownership. Who should have access to data relating to an enterprise? Banks Peninsula community has open policies, whereas some districts are a closed shop. This requires trust. An open and happy community can progress further than one that is not.

Rural Women: Note recent media attention to concerns that rural women can feel isolated. Perhaps more of these (community/environmental) issues can be addressed through them, for greater engagement.

Summary of key points:

- *Information – avenues (where from?), overload (can be too much to sort)*
- *Maps – picture it; integrates many features and things in simply-digested form*
- *Paddock approach – where things happen*
- *Who does these things? - Market drivers or domestic regulatory mechanisms?*
- *The lost decade of experts – soil conservators, farm advisors. Became consultants or businesses. Lost the neutral, available, experts, (not all research output is freely available either).*
- *Regional councils: too strongly regulatory, not enough learning support.*

Jim Risk reported on Environment Southland's environmental farm plans.

In the past, Environment Southland has undertaken soil and water conservation plans, windbreak plans, riparian plans. Now our only engagement is in 'environmental farm plans' for council floodplain lease land. Aim to make these simple, effective, specific to council's floodplain management needs. Arranged by activities, issues arising, management objectives, stewardship guidelines, monitoring. Aims to encourage farmer buy-in, uptake of BMPs, self auditing, ongoing use/updating. These plans cover the lease part of individual farms, not entire farm.

Dave Maslen & Donna Woodley gave an Environment Canterbury perspective.

Ecan has a history of shelter plans, 'run' (soil and water conservation) plans; more recently riparian, ICM, and 'living streams' plans. Becoming engaged in Meat and Wool Board environmental plans.

Look to deal with pressure points (e.g., high use areas storage/disposal sites, intensification) and sensitive areas (e.g., steams, wetlands, steep slopes). Emphasis has been on effects rather than activities – reliance on a targeted rather than a blanket approach. Issues include: weeds/pests, water (quality, quantity), erosion, nutrient management, waste disposal, biodiversity (protect/enhance).

Summary: identify pressure points and sensitive areas, implement actions where there are impacts.

We are returning towards a well proven tool that got cast aside (in much of the SI) when the soil conservators and advisors disappeared.

Regional council interest is in the environmental issues and/or the environmental resources that may become issues. But, now, farmers and industry needs and interests are emerging. Need partnerships to provide for integration of knowledge, effort and outcomes.

We want simplicity in plans, but these are often complex issues. Is it reasonable to expect simple portrayal of complex ideas and inter-relationships. Need balance between simplicity and discernment.

Shelley Washington reported on Landcare Trust farm plans on the West Coast.

Engagement in West Coast includes: Lake Brunner catchment (managing water quality from dairy industry into a lake), Dairy area near Hokitika, Orowaiti (Westport) involving urban and rural discharge. All involve partnership between RC, farmers, Westland Dairy Co., and Landcare Trust who manages the projects. Emphasis on water quality, with little input of land based data. Relatively strong emphasis on farm confidentiality.

Question: How do we meet joint benefits of market needs for QA and local environmental regulation requirements?

Nicola McGrouther presented an Otago Regional Council perspective.

Mole and tile drainage plans – required for Fonterra dairy farms.

North Otago Irrigation group – a farm plan is a condition of getting water. The plans cover management of irrigation, soils, nutrients, riparian areas, dairy effluent. Also have the North Otago (NOSLM) group plan which was taken through to ISO14000 accreditation standard several years ago, but now sidelined through lack of funded commitment to keep it going. (Now that industry drive is increasing, it may have a future role). Otago also has a strong history of soil and water conservation ‘run’ plans, covering much of the hill and high country, now in long term storage.

Plans should be driven by regional councils only where there is a particular environmental issue to address, otherwise it should lie with the farmer?

Field visit session – Matt Lathams farm in Little River

A thought that stuck was the following from Matt Latham, the owner of the farm we visited on the 2nd day: “You must farm as though you will live forever”. The following are observations and comments that came up in discussion with Matt Latham. They raise some interesting thoughts.

Public access - Not a problem as long as people ask. Paper roads are problematic – often do not follow sensible courses, need rationalisation.

“Farmers accept regulatory requirement: Regulations are inevitable. We want to get in first and show good practice before we are told what to do.” Matt Latham

Local issues include (as recognised by Matt Latham):

- The need to maintain soil fertility
- Soil quality (e.g., compaction)
- Erosion not a major problem for this property
- Pests (gorse, OMB, goats, possums)
- Landscape/amenity values of the property to the owners and the community
- Energy efficiency
- The role of forestry
- Water quality (including into Lake Forsyth)
- Waste disposal could grow as an issue, but OK now.
- Most farm production and management variability is driven by climate (water/temp mix)
- A great reliance on fertiliser company for knowledge of soil patterns and soil mgt advice.

Regional Council people would see this farm as a low priority for a farm plan as it does not have high priority environmental issues. For it to be useful to them, a whole catchment approach would be needed, with an output being improved water quality into Lake Forsyth.

Farm plan format (Matt Latham's view):

- Matt has various plans in his mind and on paper, but they are not integrated.
- Uses Endeavour mapping tool and its successors. Note that this is not compatible with commonly used (by regional councils) GIS tools – would be good to standardise or at least interoperate between small enterprise and agency-level tools.
- Data needs to be of high quality
- Keen to avoid doubling up in data gathering etc – share data where possible. Modular approach?
- What is council role – is it just on environmental matters, is this a different plan? Who owns the plan? The farmer is the ultimate owner as he has full ownership of the business plan, environmental plan etc, all of which need to “talk” to each other. That is not to say that other parties do not have ‘ownership’ of some components. Partnership is essential.
- Regional Councils should regard farmer as client, not as someone to be regulated.

Summary of the key points or messages from the workshop sessions (both Day 1 and 2)

(Identification of steps involved in developing a Farm Plan for the Latham's).

Who is a Farm Plan developed for – Who benefits?

- Community?
- Individual farm?

Ideas surrounding what a Farm plan could/should be:

- Legal agreement attached to a title
- A working/living document
- Fulfills society, economic & environmental outcomes
- Every aspect of the farming enterprise to be included
- A business plan – helps the farmer run his business - may include environmental or ‘other’ components
- A farm plan needs to have its various components integrated
- An environment farm plan is ‘part’ of an overall farm management plan
- Must be based on a common set of numbers or data.

Steps (Latham's)	Principles of farm planning
1. Identification of need(s) (our/theirs)	1. Based on open dialogue/partnership
2. Identification of tools for sustainability tool (plan)	2. Resource Information feeding into the plan and how it is displayed/formatted
3. Analysis of farm system and resource information and farms goals and objectives	3. Identification of current status, benchmarking future requirements
4. work programme developed with outcomes and action	4. Includes a timeline, cost and sharing of resources
	5. evaluation of success of the actions and outcomes

Other Workshop notes.

- Importance of partnerships in developing the plan – farmers plan
 - There is a significant knowledge gap for everybody. This needs to be filled
 - Environmental Farm plans must be a portion of whole farm plan. It can not be in isolation to the overall farm business plan.
 - What are industry requirements for QA, and could we fill that role? Should we?
 - A vital link needs to be fostered between community/industry/council
 - Plans need to be targeted and relevant, i.e. targeted approach to priority areas, priority issues.
 - Format of plan needs to be considered to ensure monitorability
 - The plan from a regional council's perspective could simply be a module of an industry developed plan covering the whole farm business (i.e. the gate to plate principle).
 - Plans need to be based on sound up-to-date science – who should provide this, and/or can it be provided?
 - Who puts the plan together, where does the responsibility lie?
 - What is the best way for resource information to be provided or accessed?
 - Lets not reinvent the wheel, we could “Dust off NOSLM plan”.
 - Environmental farm plans mean many things to many people – this means we need a consistent approach.
 - There is a resource information gap. Significant expertise and funding has been lost to the industry.
 - Team effort to achieve plan – The farmer, the farm consultant and the resource management professional all need to be working together to develop a strategy that is truly integrated and able to be implemented.
 - There is a gap between those “who know” (resource management information i.e CRI's Regional councils etc) and those who “need to know” (Industry and farms) – There is no longer a formalised method or path for the transfer of this knowledge.....Can this gap be bridged?
 - What exactly is a Regional Councils role – Regulator? Educator? Information provider? Or a combination of these?
 - What is the role or potential of consultants in the process of developing farm plans?
 - Industry requests now increasing – Should Regional Councils be the organisations to fulfill these requests?
 - Don't make assumptions about issues – talk to farmer.
-

Personal viewpoint: Canterbury Farm Plan Workshop

Dave Maslen

(This is not to be perceived as a summary of the workshop, but merely some of the musings that I have had as a result)

The Canterbury Regional Meeting to discuss and understand environmental farm plans raised more questions than it answered. This is not necessarily a bad thing. It also galvanised in my mind that; despite the soapbox rave of the April broadsheet referring to the reinvention of wheels and the constant rebranding of the same old techniques, this is sometimes both necessary and useful. One of the overwhelming points that was made throughout the 2 days was the role of Regional Councils, science providers, the farmer and the industry. In years gone by, farm plans (under their various guises and names) were predominantly developed by Regional Councils/Catchment Boards as a product of a direct policy initiative. This provided the drive for the plans, and it defined their scope. Today, the drive for farm planning would appear to be shifting significantly toward the various industries. This therefore provides the opportunity to look at the way we have done things in the past, to dust off the old techniques and apply some new technology. To some this may seem like reinvention of the wheel. To me, this represents evolution - The use of new technologies, motivations and information, underpinned by tried and true principles.

This shift highlights some interesting challenges that we and other natural resource managers need to face. The identification of the roles that the various agencies will play in the provision of information and the development of the plans needs to be defined and coordinated.

Another theme that was abundantly clear, was the need for integration when developing a farm plan. This integration must occur at a number of levels. First and foremost, an environmental farm plan should be but a component of an overall farm plan, in much the same way that a farm business plan will include OSH elements, stocking policies, farm succession plans etc. To develop an environmental farm plan in isolation to the rest of the farm business, is to ensure it's collection of dust at the back of a bookshelf.

This means that the various information providers and the information collators need to have a strategies to ensure they are in concert with each other.

The role of the farmer. This can not be underestimated, and was constantly reiterated.

Comments were constantly expressed that farm plans should be motivated and owned by the farmer, with support and frameworks etc from the industry and from environmental regulators.

Finally there is the industry. The key driver behind this latest push for environmental farm planning. What is it that their markets require? And how can it be delivered. This poses a number of questions regarding the role of regional councils and science providers. Should Regional Councils be actively developing farm plans of behalf of the industries? should they be auditing and monitoring them? Or should they simply be a conduit for the sharing of information? It will depend to some degree on how well the industry environmental requirements match domestic environmental policy, and to what degree they can work together for similar, but not exactly the

same, environmental outcomes. Science providers (such as CRI's) have a role to raise technical standards and develop tools for the industry and regulators. They need to develop these links and attract funding for such roles. The increased appetite by the industry for education and learning seems to be the key to this. They enhance their ability to do good business by receiving training, data, tools, etc from this level of expertise.

In conclusion – Thanks to the Exec, the workshop I thought was a success on a number of levels. a) it churned the collective intellectual juices regarding the roles of us all, when it comes to the oft used phrase “farm planning” and b) it has raised the awareness of NZARM. Many of those that attended are new to the sustainable land management field. The opportunity to rub shoulders with other like minded folk (many of whom have been doing this stuff for ages) was valuable, rewarding and as always very very entertaining, and that, I personally believe is one of the fundamental values and most important attributes of NZARM. It easily justifies my annual subscription fee (in response to the soapbox). I must also express my thanks to Grant Hunter whose notes from the 2 days have aided greatly in prompting my memory and filling the gaps in my notes, and also to our *Facipulator* – Simon Stokes, who kept everything ticking and the dialogue both interesting and provocative.

Summary Report: Lake Brunner *Sustainable Farm Plans*

Shelley Washington

Sustainable Farming in the Lake Brunner Catchment Project (SMF): Evaluation of the Implementation of Sustainable Farm Plans.

This report summarises findings gathered in the past month by **Miriah Russo, Shelley Washington, and Ian Brown**, through interviews with community members in the Lake Brunner catchment.

Most people who participated are interested to know the outcome, with questions over whether a regulatory approach is necessary or if the non-regulatory approach is an effective method to protect the water quality of the lake and its tributaries.

The project was a success in many ways. Initially, Jan Derks made a positive impression with the farming families. He approached the project open to collaborative ideas, and many farmers agreed that his case-by-case method was the basis for success. The project neither forced nor told any individual what must be done. Rather, it allowed farmers to accept for themselves the responsibility of change, and determine their need based on their unique farm characteristics.

The tensions around the issue of the effects of farming on water quality caused some to feel pressured into participating. This elevated level of pressure was apparent in the community, it

was reflected in farm plans, and was obvious to the public. The elevated level of tensions called for confidentiality of farm plans.

The confidentiality somewhat hindered the project from becoming more successful, because generally once farm plans were devised, community members began to break away from the holistic approach to concentrate on their individual responsibilities. The community unity was then not as obvious, leading to an individualistic rather than holistic effort.

The confidentiality of farm plans also caused a division of community resources. Once farm plans were created there was no open communication among the community regarding the issues facing the catchment. Rather than participants coming together to work toward the goal, individual farmers engaged separately in the agreed works.

The issue of confidentiality, however, was a key factor in gaining support and participation in the project, and allowed participants to agree to works privately. Keeping farm plans confidential allowed participants to focus on the agreed works.

There are other factors that hindered the success of the project. Notable was the lack of communication between the farmers and the project coordinator once the plans were created. Many farmers noted that they would have appreciated further contact or a demonstration day.

The issue of nutrient budgeting is also a factor in terms of the projects success. Nutrient budgets in many cases were simply handed over to the fertiliser company representatives. It was extremely difficult to decipher whether or not the nutrient budgets were actually being used or not. Nutrient budgeting does not have an immediate visible result and thus made it difficult to measure.

Other than the impact of confidentiality on communication, the project reached its goals in terms of its outputs. The project set targets in terms of community and technical successes. This evaluation has proved a positive outcome for all three identified success factors:

1. level of implementation of farm plan - the majority of works (52%) agreed to be complete were complete in the allotted time. (Note: implementation is continuing)
2. level of community support for the project (and good news stories replacing bad ones) - the community showed great support for this project. However, due to the lack of communication, news stories have as yet not fully portrayed the positive works being carried out.
3. level of farmer enthusiasm and pride in the project - the majority of those involved found the plans useful and had good things to report about the benefits of farm plans.

In terms of technical success the evaluation has found:

1. level of implementation of farm plan - the majority of works (52%) agreed to be completed were completed in the initially agreed time.
2. dairy farm compliance with RMA in the Lake Brunner Catchment: 65% at project outset, with the aim being 100% - the regional council will be assessing this as part of their monitoring compliance processes.

3. water quality in lakes and streams, especially levels of nitrogen, nitrate nitrogen and phosphorus as indicators of water quality: monitoring of water quality is being conducted throughout the catchment, however, seeing trends may take some time, and it may be difficult to show causal links to this project.

The project assesses success in terms of two higher level outputs. The first indicator is the level of participation in farm planning work at the end of the field work phase. Success was reached here on the basis that of the 19 farms that participated in the recent study, only 4 had done less than 50% of the works agreed. Of those four, the lowest percentage of works complete was 29%. All of the farmers who agreed to participate engaged in works of some type.

The second indicator is the number of works agreed to by farmers in the farm plans. This measure was subcategorised into implementation in the agreed time, the quality of works, and for those works not implemented, why they have not been done, whether they are likely to be done, and when the works are planned. At the time of this evaluation 39% of works were not complete. However, 60 % of that 39% are planned to be complete within the time frame of the farm plan (three or four years). Those works that are not planned to be complete are subject to reasons such as cost, time constraints, more effective ways, and lack of resources.

The results show that a great improvement has been made in terms of positive attitudes and levels of behaviour towards the project and its sustainability message. The SMF funded project has motivated farmers to initiate work that will enhance water quality, it has raised awareness of the sustainability implications of farming, it has caused farmers to demonstrate enthusiasm for the issues at hand and it has been a learning exercise that will aid in future projects. Basically, the project reached its goals in terms of participation, enthusiasm and quality.

Photo of the month

Photo of the month was a fizzer as well. Not even one caption, creative, funny or otherwise. For interest, it was a photo of a certain scientist taken on some out-of-the-way farm after a cold & wet field day. We were doing the farm tour thing with a convoy of farmers on 4-wheeler bikes, when, at the back of the farm (everyone was cold & wet, & just wanted to get home), a halt was suddenly called, and the certain scientist bolted off to examine a slumping back-wall by vigorously jumping up and down on it.



Picture an enthusiastic scientist bouncing up and down on an unstable slump face, in front of about twenty salt-of-the-earth farmers who somehow managed to look patient, surprised, and disbelieving all at the same time.

Article: Winter management of soils in intensive farming systems

Simon Stokes

The following summarises a presentation given at the High Performance Farming Systems conference August 2006.

The winter management of soils is an issue the intensive farm systems group has been investigating as part of their overall programme.

It is clear now from the programme that to achieve a high level of profitability from bull beef operations that the purchasing of bulls is best in autumn. This means that the stocking of a techno/cell system or other type of system is going to be substantial through the autumn, winter, and early spring. To manage the level of bulls on a farm and to get the most value from the pasture and the bulls, strict feed budgeting and stock management is required and this is where intensive farming systems have developed.

The stocking density, type of heavy animals (bulls) and to some degree the management systems run headlong into the issue of winter management of soils.

Soils in Hawke's Bay through autumn into early spring receive most of their rainfall. There are a variety of soils types and some soils are poorly drained due to their physical make-up and or location in the landscape. It is often flat to rolling land where these soils are located and it is these areas that often have intensive farming systems.

The end result is that pugging damages some soils and some will compact on an annual basis. This can increase the risk of sediment loss to watercourses also, particularly on rolling land.

At the first HPFS conference I outlined three key drivers to manage the winter management of soils. They were mapping, monitoring, and management. The following information is feed back on how those drivers are working.

Monitoring and Management

In the first year (2004) three farm had farm plans completed and visual soil assessments completed. In 2005 two more farms had plans completed and visual soil assessments completed and the first three farms were done again. The visual soil assessments were completed to provide a performance indicator score for soil quality. Those indicators include the soil structure and consistence, soil porosity, soil colour, number and colour of soil mottles, earthworm counts, and surface relief.

Farms

1	Te Puna	Waipukurau	M & R Petersen
2	Clouston properties	Flemington	Tom Clouston
3	Hinerangi P/ship	Hatuma	von Dadelzsen family
4	Edenham	Elsthorpe	Edenham farming Co
5	Foley blocks	Takapau	Will and Rob Foley

The following results are the averages VSA scores for various soils across the farms, with some soils having been assessed twice.

Soil Quality assessment	Ranking score	
	Flat/rolling land	Hill country
POOR	<10	<10
MODERATE	10-20	10-25
GOOD	>20 (max is 28)	>25 (max is 40)

Land Use Activity	Soil name	VSA score (ave)			
		1 st VSA	2 nd VSA	1 st VSA	2 nd VSA
R2 bulls techno	Okawa silt loam	10	18		
	Waipukurau silt loam	18	26		
R1/R2 bulls cell or intensive + sheep and deer present	Rotoatara peat	16			
	Takapau silt loam	22			
	Poporangi sandy loam	18			
	Tuki Tuki sandy loam	29			
	Taniwha silt loam	13			
	Otane clay	3	17		
	Recent alluvial clay	4			
	Wanstead clay variant	8	18		
	Wanstead clay loam	20	20		
	Matapiro silt loam	20.5	21		
	Pukehou clay loam	20	17		
	Hastings sandy loam	22			
	Irongate sandy loam	20			
	Recent alluvial silt	24	16		
	Waipukurau silt loam	25	26		
Te Aute sandy loam	25	30			
Gwavas stoney silt	25	22			
Edenham silt loam	16.5				
R1/R2 bulls cell or intensive on hill country + sheep present	Recent slope silt loam			24	
	Atua silt loam variant			23	27
	Te Apiti silt loam			28	
	Elsthorpe silt loam			30.5	
	Waipawa silt loam			30	32
	Mokapeka sandy loam			33	
	Te Onepu clay loam			34	
	Mangatarata silt loam			36	34.5
	Whetukura sandy loam			36	35
Awatea loam			36		

There are some differences in results from the first year's assessment. The following three farms tables show the results.

The following results are from the Clouston property at Flemington.

Soil Quality assessment – Clouston	Ranking Score	
	Flat/rolling land	Hill country
Poor	<10	<10
Moderate	10 – 20	10 - 25
Good	>20	>25

Soil type	Soil description and location	VSA score (averages)			
		04	05	04	05
Atua silt loam variant	Hill slopes with shallow loess (silt and ash) on mudstone			25	23 lowest was 12.5
Wanstead clay loam	Soil weathered from underlying bentonitic mudstone	20.5	20		
Wanstead clay loam variant	Soil weathered from bentonitic mudstone deposited as alluvium	8	18		
Pukehou clay loam	Soil weathered from mudstone deposited as alluvium	20	18.5		
Recent alluvial silt loam	Located on floodable terraces	24.5	16		
Recent alluvial clay (in LUC unit 3w1)	Located on floodable terraces	4			
Mangatarata silt loam	Soil weathered from underlying argillite			36	35
Waipawa silt loam	Soil weathered from underlying argillite			34	33
Waipawa silt loam variant	Soil weathered from underlying argillite			28	
Recent steepland silt	Located on steep mudstone slopes			26	
Te Apiti silt loam	Located on moderately steep mudstone slopes			28	
Whetukura sandy loam	Located on moderately steep sandstone slopes			38	
Colluvial soil not scored					

The difference in results is based on a change in management policy with the terrace soils, which were scoring low. The Wanstead clay loam variant has a cell system in place. R2 bulls are grazed until it is considered too wet and then hoggets are put into the system. The bulls are shifted to the hill country cells on the Waipawa and Mangatarata soils. The kg/lwt carried on the cells is equalled on the hills at currently 800-1000kg/lwt/ha. It is envisaged to carry 1300-1400kg/lwt/ha. The hill soils scored slightly less than the previous year but are still scoring highly. There is an opportunity cost on the pasture growth of the terrace cells as the sheep graze it very low and it is slow in the spring and not suited to the bulls as early as normal.

The autumn covers for the hills needs to be at a minimum of 2000kgs to get through the winter which in this case has been achieved through the use of DAP ammonium sulphate at 40 units (100kgs).

The following results are from the Te Puna property at Waipukurau.

Soil Quality assessment – Te Puna	Ranking Score	
	Flat/rolling land	Hill country
Poor	<10	<10
Moderate	10 – 20	10 - 25
Good	>20	>25

Soil type	Soil description and location	VSA score (averages)			
		04	05	04	05
Okawa silt loam	Airfall loess washed off hills and re-deposited on flat land and valley floors	12 range was 8.5 - 15	17 range was 15 – 20		
Matapiro silt loam	Airfall deposited loess on rolling land	19	23		
Waipukurau silt loam	Airfall ash and loess on rolling land	25	26		
Gwavas stoney silt loam	Soil with stoney fragments weathered from underlying gravels	25	22		
Otane heavy clay	Weathered argillite clay washed off hills and re-deposited in valley floors	3	17		
Mangatarata silt loam	Soil weathered from underlying argillite			36	34
Waipawa silt loam	Soil weathered from underlying argillite			34	32
Recent alluvial silt	Located on floodable terraces	22			
Recent slope silt	Located on terrace rises			22	
Atua silt loam variant	Hill slopes with shallow loess on sandstone and mudstone			18	31

The difference in results from is based on a change in management policy with the soils in the techno system, which were scoring low and the overall policy of large quantities of bulls on the farm during winter. The Okawa silt loam has a techno system in place. R2 bulls are grazed on the system but not in winter as it is considered too wet. Finishing lambs are now part of the policy. Bulls are still present on the property but at lower numbers and targeted towards the areas with less risk to soil damage.

The following results are from the Hinerangi property at Hatuma.

Soil Quality assessment – Hinerangi	Ranking Score	
	Flat/rolling land	Hill country
Poor	<10	<10
Moderate	10 – 20	10 - 25
Good	>20	>25

Soil type	Soil description and location	VSA score (averages)			
		04	05	04	05
Okawa silt loam	Airfall loess washed off hills and re-deposited on flat land and valley floors	8	19		
Matapiro silt loam	Airfall deposited loess on rolling land	20 range was 18.5 – 23.5	20 range was 14.5 – 23		
Whetukura sandy loam	Soil weathered from underlying sandstone			34	35
Te Aute sandy loam	Soil weathered from underlying limestone	25	30		
Irongate sandy loam	Weathered from alluvial deposits	20	20		
Hastings sandy loam		22			
Recent alluvial	Located on floodable terraces	Not surveyed			

The difference in results from is based on a change in management policy with the Okawa soil, which were scoring low and an overall increased emphasis on soil winter management. Bulls are no longer grazed on the Okawa soils during winter. Bulls are still grazed on the Matapiro/Te Aute soils but with a reduced stocking rate from 3.5ha to 2.5ha and have a faster rotation.

The bulls are also grazed in pine forest blocks with all trees older than 10years. They are supplementary feed while in some of these blocks and in some cases are putting on more daily weight than previously in the winter. Also 150 dairy cows are being break fed on a green feed fodder crop. This area is 6ha and will last them 2 months, saving approximately 60ha of pasture area that would have been required. This can be called a sacrifice area and is more profitable than pugging a greater area of pasture.

Summary

In summary the first year results caused some policy changes to avoid soil damage and pasture loss over winter. All farms changed their policies to suit their systems and needs. Overall profitability, while anecdotal, has been sufficient to continue with the change in policies. All farmers say they require high autumn covers of >2000kg/ha going into winter, although the approach to nitrogen application is mixed, but most farmers use a minimum of 40 units (100kg) in autumn. There is also variation in rotation rate with some rotations at 15-30 days and some at 80 days, but this may be due to soil type.

Mapping

Two farms have had included with their farm plan a map titled ‘soil compaction risk map’ for the winter months of June, July, and August. It is a strategic decision tool. This map gives soils on a property a risk score in relation to its susceptibility to compaction, when the available soil water is at field capacity or higher (towards saturation). This allows a farm to analyse and manage the movement of stock throughout the winter minimising the effect of soils to potential compaction and pugging. Of course this map can be used at any time of year if there is high levels of soil moisture occurring

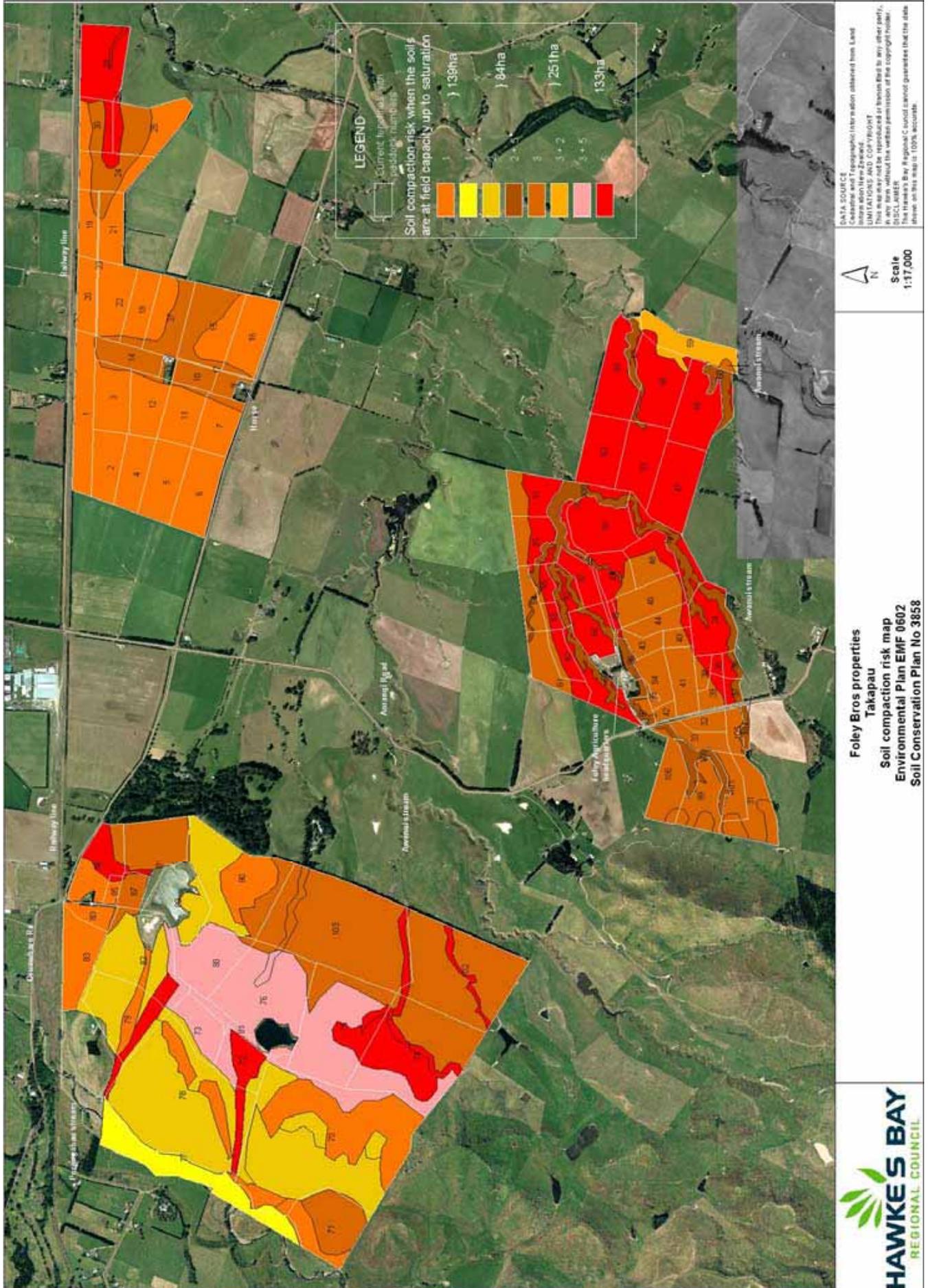
What this map allows you to do is to prepare for an average winter soil moisture level, where the areas of risk are calculated (ha) so that stock type, density, and crop regime are managed to limit any soil damage. While the map is based on soil compaction, it also represents the effective risk for cultivating when certain soils are at field capacity, and the potential riparian damage that may occur from intensive land use at that time also.

The following is an example of the Foley Bros properties.

Soil compaction risk when the soils are at field capacity up to saturation (<i>in ha's</i>)					
Risk 1-5	Very high (5)	High (4)	Moderate (3)	Low (2)	Very low (1)
Takapau					106
Poporangi			28		
Okawa	120				
Recent alluvial				<5?	
Matapiro	4		212	12	
Waipukurau			4		
Te Onepu					23
Awatea				66	
Whetukura			7		
Tuki Tuki					10
Taniwha	13				
Quarried soil				6	
Total ha	133	0	251	84	139

Essentially 133ha (22%) of 607ha is very high risk as soon as the soils reach field capacity (research has also shown that when soil moisture is slightly lower than field capacity compaction will occur). However what this map allows is potentially is variation to management decisions. Potentially this area to be harvested by bulls earlier in winter avoiding the high-risk period, or for use in varying rotations, or not grazed by bulls at all.

Foley Property's soil compaction risk map



Management

Strategic management changes have been shown with the previous information. The following table shows 'second tier' strategic management options available to the farmers involved. The farmers involved in the programme have used the options outlined in **BOLD**.

- Contractor availability and **soil knowledge**
- Subsoil aeration
- Artificial drainage
- **Minimum tillage**/strip tillage/controlled traffic
- **Stand off blocks**/feed pads/**sacrifice areas**
- **Strategic fencing**
- **Higher post graze residuals/faster rotations or slower rotations**
- Avoidance of newly grassed/crops on vulnerable soils
- Fallowing (however this can actually reduce organic matter build up)

One option is to explore further

Winter crop vs techno pasture

15 bulls in each system for 60 days for July and August. The pasture area is 5ha and the crop 1ha. Average pasture growth rate per day/ha for the two months is 15kgDM/day. Crop production equals approximately 6500kgDM from 1 ha.

Pasture option

Soils reach field capacity in June and are vulnerable to pugging. Throughout July and August those 15 bulls create 50% pugging damage therefore 50% pasture loss for September as it takes 8-12 weeks to recover. 50% of total pasture production is 600kg feed x \$0.15/kgDM = \$90/ha cost of lost feed. Calculate the overall loss over 5ha = \$450

Cropping option

Soils reach field capacity in June and are vulnerable to pugging. Crop is break fed. Essentially 100% pugging damage occurs on break fed proportion. Crop production was 6500kg for 60days x \$0.15/kg = \$975/ha

\$975 minus crop cost of \$400 = \$575/ha + income saved from lost pasture of \$450 = \$1025 profit. If we take out the cost of cultivation for re-cropping/grassing at \$400/ha then profit is \$625.

Comparison then is \$625 profit for 1ha of well-grown crop versus a potential pasture loss cost of \$450. A variation of \$1075. This option therefore seems much more applicable.

However other factors should be taken into consideration

- Paddock location for the crop and the potential loss of sediment to watercourses
- Slope angle
- Soil type to lower the risk of structural decline – relative to the level of clay present
- Reduced tillage systems or direct drilling to protect as best as possible the soil structure from active cultivation
- Planning in relation to the rejuvenation of that area through regrassing/cropping and the timeframe before the next winter crop – potentially 5-8 years time.

Hot topic: “Dairy Sector To Unite On Environment”

(submitted by Anna Lambourne)

A strategy put together by dairy farming leaders has created a way for New Zealand dairying to improve its environmental impact while maintaining a focus on productivity improvement.

The Dairying Environment Review Group, established last year specifically to design the strategy, has identified a number of investment areas which will allow the industry to improve its sustainable environmental practices.

The review group, made up of representatives from the dairying community, including three farmers, has developed a strategy that binds together the work of farmers, research investors, suppliers and local and central government.

Review leader, John Penno, said all organisations and individuals signing up to the strategy will make its environmental objectives central to their daily work.

"The strategy defines what actions are necessary over the next decade to establish sector-wide sustainable management.

"It maps out how to develop the tools and processes that will lead to more sustainable businesses, environments and communities.

"Everyone in dairy farming need to be doing something that brings about changes on each dairy farm that reduces nutrient outflow and microbial contamination of surface water.

"It is the biggest thing to happen in sustainable dairy farming for some time," Mr Penno said.

The members of the Dairy Environment Review Group included representatives from, Fonterra, Environment Waikato, Dexcel, AgResearch, University of Waikato, Landcare Research, Dairy Farmers of New Zealand and Dairy InSight.

The strategy they created is based on aligning funding and sector activity on three platforms:

- Communicating and engaging with the industry and the community on sustainable environmental management,
- Creating immediate on-farm technology and action to improve environmental management,
- Research to measure the farm environment and improve technology and farming practices.
- "This strategy is a big step forward in developing on-farm tools and options that contribute to sustainable management. That said, there is still a lot of work ahead. We will continue to go forward to find answers that are acceptable to farmers and do not diminish on-farm productivity," said Lachlan McKenzie of Dairy Farmers of New Zealand, the dairy wing of Federated Farmers.

Mr Penno said a Leadership Group would be formed to oversee and coordinate the strategy.

"The next step is to align Dairy InSight investments and available government funds around getting sustainable management tools and practices onto farms," he said.

What is the strategy about?

The dairy industry's Sustainable Environmental Management Strategy outlines how the industry will direct its investment and effort to achieve the environmental objectives of the strategic framework. It builds on past environmental management processes where much has been achieved in positively changing on-farm practices.

The strategy is an important catalyst for the dairy industry. It outlines the industry's approach to meeting the environmental objectives of the dairy industry's strategic framework.

The dairy industry has set a target of 10 years for the strategy and identified some significant challenges to overcome.

Why was the strategy developed?

Improvements and expansion in environmental research tools are revealing the nature and extent of the influence of human activity on the natural environment. Dairy farming is part of that growing understanding.

The dairy industry has taken progressively stronger steps to improve environmental management. To continue that improvement, more tools and processes are needed to develop sustainable businesses, environments and communities.

Who was involved in developing the strategy?

The strategy is the result of work undertaken by the Dairy Environment Review Group. This pan-industry group was formed by Dairy InSight and endorsed by Dairy 21 to develop an investment strategy to achieve the environmental objectives of the dairy industry's strategic framework.

Were farmers involved?

The review group was formed by Dairy InSight with the endorsement of Dairy 21 to represent a range of industry participants, and three out of 10 people on the group were farmers. Consultation with farmers also took place right throughout the review phase.

Farmers will have the opportunity to find out more about the strategy during April and May, and the Dexcel website provides further information on the strategy.

Who is responsible for the strategy?

A leadership group comprising of industry representatives. The leadership group will provide overall leadership to the industry in positioning sustainable environmental management as imperative and ensuring that the community is kept informed. The leadership group will also be responsible for ensuring the objectives of the strategy are delivered.

Who is paying for this?

The development of the strategy was funded by farmers' levies through Dairy InSight. Dairy InSight will continue to support the leadership group and implementation of the strategy.

The strategy also seeks to co-ordinate funding from central government agencies such as Ministry of Agriculture and Forestry, Ministry for Environment, Foundation for Research, Science and Technology, regional councils and other parties to meet the targets of the dairy industry's strategic framework.

How does this relate to the Clean Streams Accord?

The Clean Streams Accord is about the environmental impact of dairy farming on streams and rivers. Monitoring of the Accord since its implementation in 2002 shows the industry is performing very well in the areas of effluent management and exclusion of stock from waterways. The Sustainable Environmental Management strategy will ensure the industry continues to have ongoing progress.

The strategy takes a wider, non-prescriptive view of the impact of dairying on the environment and seeks to provide farmers with more options, better information and more effective tools to make decisions on sustainable environmental management.

How will I know whether the strategy is meeting its targets?

Developing accurate measurement systems is an important part of the strategy. However, changes to the visible effects of environmental impacts will not be immediate (this is a 10 year strategy). What is important is that the whole industry is making a commitment to managing environmental impacts and setting itself some challenging targets.

Where do I go for more information about the tools and options being developed?

Dairy InSight has appointed Dexcel as the Lead Provider for the strategy. Dexcel will be responsible for delivering the outcomes of the strategy to farmers, and are directly accountable to Dairy InSight, the investor of your levy. Dexcel will also work closely with AgResearch (Lead Provider for the science component) to provide tools and options that meet the needs of farmers.

For more information or for a copy of the strategy you can visit Dexcel's website www.dexcel.co.nz or email futurefarms@dexcel.co.nz



Promotion: Centre for the Study of Agriculture, Food and Environment

(submitted by Murray Harris)

The Centre for the Study of Agriculture, Food and Environment (CSAFE) is a multidisciplinary research centre at the University of Otago. CSAFE's vision is for improved and more sustainable economic, environmental and social wellbeing in New Zealand. CSAFE's mission is to discover and promote effective, practical pathways to sustainable land use, food and fibre production, and wild food harvesting. This will be achieved through innovative bicultural and trans-disciplinary research of socioecological systems, and by training students, our future researchers, environmental managers and policy makers to the highest international standards.

CSAFE's research identifies practical pathways to enhancing social, environmental and economic wellbeing through discovery of sustainable food production and harvesting strategies, and efficient environmental management. This will be achieved by:

- A trans-disciplinary approach: several disciplines working together to solve complex socio-ecological problems
- A focus on feedback between people, land and markets
- Discovering knowledge & tools to empower farming families & wild food gatherers to act in a sustainable way
- Research of effective governance initiatives that capture the potential of all stakeholders to make food and fibre production and wild food gathering sustainable.



CENTRE FOR THE STUDY OF
AGRICULTURE, FOOD AND
ENVIRONMENT (CSAFE)

CSAFE is working towards enhancing relationships with other researchers within the University of Otago, and with researchers nationally and internationally in the areas of:

- Sustainable land use (production landscapes)
- Ecological resilience indicators in production landscapes
- Governance issues surrounding land use
- Adaptive co-management and ecosystem management
- Bicultural partnership models for science and management
- Energy use on productive land
- CSAFE is seeking to strengthen and formalise working relationships with end users of its research e.g. industry,
- community groups, local government bodies and national
- policy makers.

PAST RESEARCH PROJECTS

- Greening foods: social scientific analysis of commercial organic agriculture (FRST)
- Public perceptions of biotechnology (FRST)
- Farmers and wetlands (Fish and Game NZ)
- History of sustainable agriculture in NZ (FRST)
- Evaluation of novel Genetically Modified Organisms (GMOs) in NZ (FRST)

CURRENT RESEARCH PROJECTS

- ARGOS: The Agricultural Research Group on Sustainability is a collaborative research programme studying sustainable agriculture. The goal of ARGOS research is to facilitate innovation and improved performance in primary production systems through a better understanding of the environmental effects, and the social and economic consequences of different farming practices in New Zealand. CSAFE is a major partner in this multi-institution group, along with Lincoln University and the Agribusiness Group. This research programme has secured FRST funding for six years as the first step in a 20 to 30 year project, and is also supported by industry co-funding.
- Modelling social-ecological resilience theory and sustainability paradigms for agriculture, customary use and the national preservation estate
- Distinctive approaches to environmental management arising from mātauranga Māori (Māori knowledge) and kaitiaki approaches for mātaitai and taiāpure reserves along New Zealand's coastline, rivers and lakes
- Effective tools for adaptive co-management of the Titi Island nature reserves
- The causes and consequences of agri-food system change
- Changing dynamics of agricultural households and enterprises
- Changing patterns of rural, environmental and agricultural governance
- Soil health monitoring by Māori farmers
- Broader changes in the social and economic patterns of agricultural land use
- Social and economic risks and benefits arising from new agrifood technologies
- Environmental history of the Matura catchment and impacts of agricultural intensification and neo-liberal deregulation on river health and fishing
- Environmentality: motivating individual farmers and resource users through shared management of the environment
- Socio-environmental opportunities and impacts of salmon farming.

Organisations interested in the working with CSAFE are welcome to contact the Centre.

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