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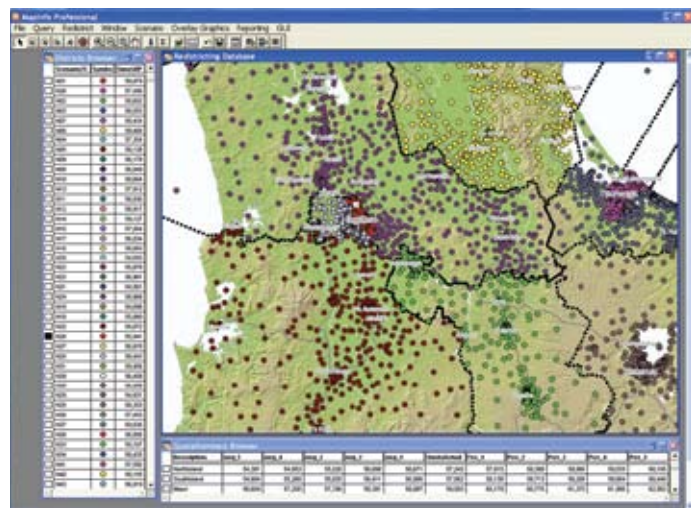
8 Surveyors' conference considers sustainability issues

The 9th South-East Asian Survey Congress in Christchurch in October will examine the fundamental principles of sustainability in land development.

LINZ HELPS COMMISSION DEFINE ELECTORAL BOUNDARIES

When LINZ's Andrew Clouston demonstrates the software that has helped to formulate proposed new electoral boundaries, he shifts some coloured dots on a map from the Clutha-Southland electorate into Invercargill.

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A screenshot shows the dots representing meshblock populations across the Waikato and Bay of Plenty.

Shifting dots looks fun and simple, but the dots represent mesh block populations which, when combined with layer on layer of community, topographic, regional and local government information, are needed to create electoral boundaries that will work on the ground come election time.

Providing spatial expertise and services to the electoral Representation Commission is one of LINZ's top priority projects this year. The Commission is responsible for re-adjusting the General and Māori electorate boundaries after each census to reflect changing demographics and population movements around New Zealand.

"The Commission ensures each electorate is made up of roughly the same number of people," says Don Grant, who as Surveyor-General is a key member of the Commission and responsible for LINZ's input. "LINZ provides the technical expertise by mapping that connects New Zealanders into their electorates."

Three people at LINZ have worked on the project over the past year. Don, supported by Deputy Surveyor-General Anselm Haanen, and Andrew Clouston, a technical leader in LINZ's Customer Services' specialist processing and data management team, who has provided the bulk of the technical work.

"The work comes in intense waves, and we were under some very strict timeframes to deliver proposed boundaries for public consultation by June. By 26 September the Commission will publish the final boundaries."

BACK TO THE DOTS

Using the customised MapInfo GIS tool, Andrew helped the Commission to determine the proposed boundaries, produced the various maps needed, and managed the contractors who have developed an interactive web interface.

"Using the tool is a lot of fun in many ways," Andrew says, "but you have to keep in the back of your mind that while it's easy to make pretty maps, each dot you shift around changes where a group of people vote, their local MP, or the local centre that they feel affiliated with.

"As an example, if you start at the bottom of the South Island, by moving mesh block populations into Invercargill, you then affect the huge Clutha-Southland electorate. Changing that creates a domino effect up through Otago all the way to the northern edge of Christchurch."

Even names are considered carefully. For instance, this year one of the major factors in the Māori electorates was a relative population increase in the Tainui electorate, which centred around Hamilton. The Commission's proposed boundaries shift the old Tainui boundary further north, taking population from Auckland-based Tamaki-Makaurau. To reflect this change, the Commission proposed a new name for the electorate – Pare Hauraki-Pare Waikato.

Still, the difficulty in balancing so many factors has not prevented the team from being innovative. Don says that the members of the Representation Commission have given LINZ kudos for not only pumping out the work, but for also producing more user-friendly online and paper map products.

"It's a huge amount of work for LINZ to get through," he says, "but crucial for our democracy. By ensuring each general or Māori electorate has around the same number of people, an Auckland Central elector's vote counts as much as someone living in the geographically vast electorate of West Coast Tasman and so on."

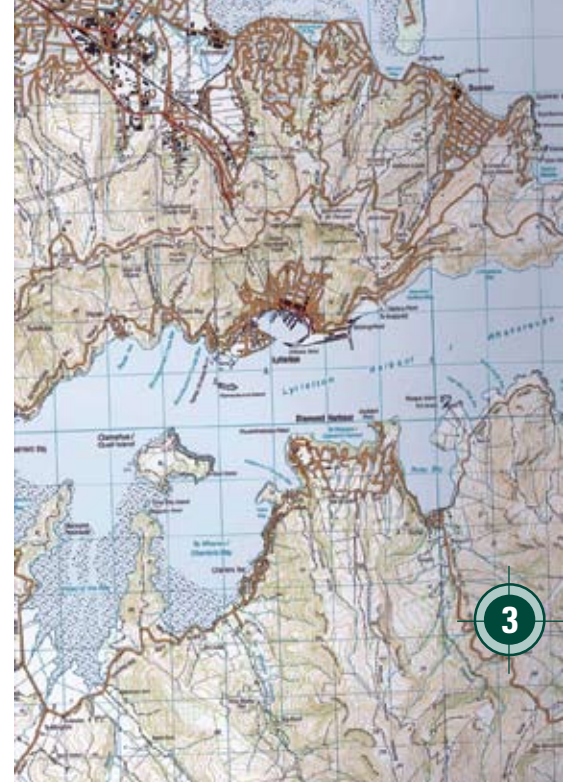
Check out LINZ's work and the proposed boundaries at www.elections.org.nz

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The new 1:50,000 NZTopo50 map series will have a familiar look, but will be produced in portrait format with a new map projection and datum.



NZTOPO50 SERIES: MAP PROTOTYPE DEVELOPED

In August LINZ successfully produced a prototype of its new 1:50,000 NZTopo50 paper maps series using new mapping technology.

The technology for the new map series, which is due for launch in 2009, merges topographic data with paper map features such as hill-shading and graphics. The process will dramatically reduce the time required for future new editions.

LINZ project manager Fran McNamara says that although the public will find the NZTopo50 map series familiar and easy to use, there will be some changes.

“There’s a switch from landscape to portrait format,” says Fran. “And the area covered in each map in the new series is slightly smaller than before. But the main difference is in the new datum and projection.”

Since 1949 most of the country’s maps have used the New Zealand Map Grid, which is based on the New Zealand Geodetic Datum 1949. That datum was a ‘best fit’ to New Zealand. Then in 2000, a new geodetic datum based on an international system was determined. The new datum,

Mike Smith, Special Projects Engineer for UK-based 1Spatial, at work on the prototype.



which is compatible with positioning techniques such as the Global Positioning System (GPS), resulted in a 200 metre shift in positions relative to the earlier datum.

To reflect this shift in positions, LINZ introduced a new map projection called the New Zealand Transverse Mercator 2000 (NZTM 2000). The new NZTopo50 paper map series, a LINZ priority project, will use the new projection.

LINZ will be working with New Zealand industry and government agencies on plans for the 2009 launch. New Zealand’s emergency services, defence and other government organisations use their own electronic mapping systems, and are planning to adopt the NZTM 2000 projection when the new paper map series is launched. In initial workshops with LINZ, all present agreed to work toward a single national launch date.

LINZ will also consult with utility providers, such as power companies, and the wider mapping industry to ensure a smooth switch from the existing 1:50,000 Topographic Map Series 260 to the new NZTopo50 map series.

UK company 1Spatial was contracted to enhance the New Zealand Topographic Database. The prototype marks the end of installation and testing. Over the next 18 months, a team of cartographers will carefully update the text ready to produce the maps to the high quality standards required.

As progress continues towards the launch of the new paper map series, LINZ will provide comprehensive information for map retailers, industry and the general public.

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Iconic high country landscapes are to be protected.

ICONIC LANDSCAPES PROTECTED

The protection of iconic landscapes around lakes such as Tekapo, Wanaka and Wakatipu has been tightened as part of a new approach by the government to tenure review in the South Island high country.

“We are making changes designed to ensure some of the most spectacular alpine lakesides in New Zealand are safe from inappropriate subdivision or development,” Land Information Minister David Parker and Conservation Minister Chris Carter announced in June.

Until now, Crown pastoral lease land around high country lakesides has been available for tenure review with pastoral lessees. This exposed areas of lakeside land to potential subdivision and intensification of land use when land is freeholded.

“Tenure review has provided real gains for conservation, recreation and access. However, the government is concerned about the cumulative impact tenure review could have on lakeside areas as the process gradually advances across the high country,” the Ministers said.

“From now on, pastoral lease properties will be excluded from tenure review if they have highly significant lakeside, landscape, biodiversity or other values that are unlikely to be protected satisfactorily by tenure review. Such land will not be allowed to pass into private hands unless it is demonstrably in the public interest.”



Warwick Quinn

OPTIMAL REGULATION: LINZ DEFINES THE 'WHAT' – INDUSTRY DEFINES THE 'HOW'

“As little as possible – as much as necessary” encapsulates what LINZ means by ‘optimal regulation’ says Warwick Quinn, General Manager of LINZ’s Regulatory group.

Warwick’s team is responsible for establishing and monitoring standards for topographic maps, hydrographic charts, geodetic and cadastral surveys, land title registrations, Crown property management acquisitions and disposals, rating valuations and overseas investment.

Over the past three years, LINZ has been changing the way it determines when and how it decides to intervene in the market. Optimal regulation sees a change from a historically prescriptive approach to one that reinforces intervention only where necessary.

“It’s based on the premise that government is not focused on telling suppliers *how* to do something. Instead, we are concentrating on *what* should be delivered,” Warwick says.

According to Warwick, optimal regulation starts with the question, “*What are the regulator’s core objectives?*”

“When we started this process, we developed a set of objectives for each area. From there, we developed a model to measure the risk of not achieving those objectives. This framework also provided us with the appropriate intervention tool necessary to manage that risk – a standard, guidelines, ruling etc.

“We took a lot of time working out our objectives and the risk model to ensure the intervention tool we eventually

Tenure review has always been a voluntary process for both the Crown and lessees, and the effect of the government's decision is that the Crown will now exercise its discretion not to participate in tenure review in some cases.

Other pastoral leases can still undergo tenure review as before, but all proposed settlements will be seen by Ministers in future. In addition, funding approval from the Minister for Land Information will be required before they can proceed.

"This is consistent with other protections announced earlier this year to closely monitor the disposal of any 'sensitive' Crown land to ensure land with significant non-commercial values remains in public hands," the Ministers said.

"Protecting special landscapes from over-development and improving public access to them is essential if future generations are to enjoy the same opportunities we do today."

Land excluded from tenure review will either continue to be managed as a pastoral lease or, if available for sale, may in some circumstances be purchased by the Crown and vested as public conservation land.

Pastoral leases restrict what can be done with land and, if properly managed, can provide good protection of natural values. Officials will review land management practices on pastoral leases, and the issuing of consents for non-pastoral activities, to ensure natural values are not being undermined.

"The government places a high priority on the preservation of the essential natural characteristics of the South Island high country," the Ministers said.

"In addition to these new changes, a network of high country parks and reserves is being created. Six parks have already been opened, and a seventh – the proposed Oteake Conservation Park – is taking shape around Michael Peak station, which was purchased by the government on 1 June 2007."

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adopted was optimal, that is, fit for purpose. We brought in PriceWaterhouseCoopers to review it and they confirmed one essential thing for us: is our logic going to produce optimal regulation? They said 'yes'."

Warwick says a number of other government agencies are doing similar work.

"The common theme we're all working towards is ensuring a good outcome – identifying the risks and mitigating them at the right levels. Generally, the higher the risk, the higher the level of intervention. On the other hand, if a risk is low, it may be best to do nothing. That's optimal regulation."

REVIEW OF STANDARDS AND GUIDELINES UNDERWAY

Part of the move to optimal regulation involves the review of standards and guidelines for each of LINZ's eight regulatory areas.

"We're about two-thirds the way through condensing the (approximately) 350 documents into 43 standards and guidelines that will give us a better outcome and quality."

Representatives from all of the relevant industries along with academics and technical experts, are taking part in

expert groups to put each of our new draft standards to the test and their input is invaluable.

"They are confirming our belief that optimal regulation will raise first-time compliance and we certainly have a better understanding of each other's obligations by working together on this.

"The challenge to the industry will lie in determining what sort of practices and quality assurance can be put in place to promote self-regulation," said Warwick.

"That's where innovation and investment in technology will pay significant benefits."

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HELPING THEIR COLLEAGUES REACH 100% E-LODGE MENT TARGETS

In this article, Landscan profiles lawyer Duncan Terris and surveyor Chad Keir who have been helping their colleagues around New Zealand make the transition to 100% e-lodgement.

Duncan Terris has worked alongside LINZ for the past eight years helping conveyancers come to grips with e-dealing in his role as the New Zealand Law Society's stakeholder representative.

Duncan has more than 10 years experience as a sole practitioner in Christchurch. Before this he worked for firms in New Zealand and Sydney and gained a broad outlook on the processes firms of differing sizes employ.

Duncan says he's by no means an expert on information technology and became involved with the e-lodgement project out of pure curiosity.

"I don't profess to be a techo and I don't want to be. I think if that were the case then I would not be a true representative of the legal profession and would not be able to provide the insight to ensure this transition to 100% e-lodgement is successful," says Duncan.

Because Duncan is still in practice, he sees first-hand the impact changes to Landonline have on conveyancers.

"When I have done presentations around the country, many conveyancers have been surprised to learn that I

am still in practice, but the NZLS and LINZ identified this as a key need because the changes directly impact me as well," Duncan explains.

Duncan has been closely involved with each Landonline 'release' when new e-capable instruments are added to Landonline. It's his job to ensure that the correct terminology is being used and that e-dealing covers everything that the paper process did.

Duncan is urging conveyancers to attend roadshow presentations for Landonline releases 3.0 and 3.1, which are programmed for 2008. Duncan will be on hand during the roadshow to demonstrate ways to implement the new instruments that will become available with each release.

Chad Keir's role as e-survey liaison began in June 2007. His task was to help surveyors throughout the country overcome barriers to using e-survey by the 1 September target for 100% e-lodgement of survey plans.

With 11 years experience as a registered professional surveyor, Chad has worked in Tauranga and Dunedin and now owns

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GEOGRAPHIC BOARD FUNCTIONS WIDENED

The New Zealand Geographic Board's place-naming role is proposed to be widened to include undersea features of New Zealand's continental shelf such as submarine volcanoes and canyons.



Changes to the board's functions, proposed in a Bill now before Parliament, would also formalise in law the board's long involvement in the naming of places in Antarctica, Minister for Land Information David Parker said.

"The official naming of features in these areas is becoming increasingly important for New Zealand given the intensive research and exploration that is occurring there," David Parker said.

"Through the process of naming we ensure that geographic features reflect who we are as a nation. Knowing the correct names for places and their location is also important for people in all manner of everyday communications and activities, for businesses in their transactions and for emergency services in responding to incidents."

Changes to the board's functions are included in the New Zealand Geographic Board (Ngā Pou Taunaha o Aotearoa) Bill, currently being considered by the General Administration Select Committee. The Bill follows public consultation on the 61-year-old New Zealand Geographic Board Act of 1946.

David Parker said the assigning and altering of official names of suburbs and localities would be devolved to



Chad Keir



Duncan Terris

his own surveying firm in Taupo. He has a wealth of *e-survey* knowledge, having used the system since 2004.

His main focus was on survey firms in Auckland where uptake rates were the lowest in the country. Chad worked with 34 Auckland firms to lift their e-survey usage and help them feel confident using Landonline.

“I identified the main issues for these surveyors and helped address them.”

Offering a surveyor’s perspective and skillset to help firms implement e-survey into their businesses has been invaluable. His work now largely done, Chad can look back on the 1 September milestone with a good deal of satisfaction.

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local government in future, but until then the board would keep its current responsibility for these names.

Under the Bill, the public would also be given a new opportunity to comment on proposed names for Crown protected areas managed by the Department of Conservation.

A proposed new board function is to publish and maintain an online gazetteer of official geographic names containing location and historic information for the names.

Submissions on the Bill closed on 21 September.

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WELL DONE SURVEYORS!

1 September 2007 was a significant day in New Zealand surveying history – the day when the electronic lodgement of all cadastral survey transactions became mandatory.

It was also an important milestone for Land Information New Zealand (LINZ) as it moves toward 100% electronic lodgement of all land title and survey transactions by late 2008.

LINZ Chief Executive Brendan Boyle said reaching the 1 September milestone was the culmination of much hard work and commitment on behalf of surveyors and LINZ.

“Surveyors have done a great job and I thank them for identifying and working through issues so constructively with LINZ,” says Brendan.

“That helped us get to the point where setting those target dates for 100% e-lodgement was the next logical step. Now we are at the stage where we have virtually achieved 100% e-lodgement of survey plans, and it’s a credit to everyone who has participated in this process.”

The journey to 100% e-lodgement for cadastral surveys has had its challenges, Brendan says.

“I know it hasn’t been easy. It’s taken surveyors time to be trained and to become confident with the application. And it’s taken time and effort for survey firms to put business processes in place so they can reap the benefits of e-lodgement.”

Though this may feel like the end of the journey, in fact it has merely just begun. Further developments to Landonline are already being looked at with the aim of improving the system to maximise benefits to surveyors and conveyancers.

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INTERNATIONAL SURVEYING CONFERENCE TO ADDRESS SUSTAINABILITY ISSUES

The 9th South-East Asian Survey Congress in Christchurch in October will examine the fundamental principles of sustainability in land development.

The conference theme 'Developing Sustainable Societies' is topical, with surveyors here and overseas grappling with the challenge of designing and developing sustainable communities.

Hosted by the New Zealand Institute of Surveyors (NZIS), the congress is the largest and most prestigious international conference of surveying professionals to be held in New Zealand.

A strong LINZ contingent will present on several key topics – including the impacts of Landonline *e-survey* on the cadastral survey community; the vertical datum 2007; a changing approach to geodetic networks and standards; the new national Topo50 map series; and proposed changes to the Surveyor-General's Rules for cadastral surveys.

Delegates from throughout New Zealand, Australia, South-East Asia, Africa, the Carribean and Europe are expected to attend.

Surveyor-General, Don Grant, says international attendees will be interested in developments in the New Zealand survey system, such as Landonline *e-survey*.

"We are leading the world with Landonline, a fact LINZ and the surveying and legal communities can take great pride in," says Don.

"It's a great opportunity to not only showcase what New Zealand is doing in surveying but to also see what others are accomplishing. We're looking forward to seeking comments from overseas experts and benefiting from their experiences."

FIG, SYDNEY 2010

LINZ Geodetic Data Analyst Nic Donnelly will go to the conference wearing another hat – as one of two New Zealand-based Young Ambassadors nominated to promote the four-yearly International Federation of Surveyors congress in Sydney in 2010.

The federation, more formally known as the Fèdération Internationale des Gèomètres (or FIG), is an international, non-government organisation that supports international collaboration for the progress of surveying in all fields and applications.

Nic's role is to promote the Sydney congress among younger surveyors. "We need young surveyors attending conferences such as FIG as they will be driving the future direction of surveying," says Nic, who was nominated by LINZ for the role.

New Zealand Institute of Surveyors Young Ambassador nominee Rebecca Strang will also represent New Zealand at the 2010 congress.

For more information on the 9th South East Asian Survey Congress, visit www.surveyors.org.nz/congress2007

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