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location *matters*

A *point of reference* for Tasmanian land information



THIS ISSUE

Dunalley fire - ES-GIS response
Spatial Information Foundations Project
Changing of the guard
Cadastral upgrade
TASSIC's new strategic plan





This newsletter is designed, written, edited and produced by the Information and Land Services Division of the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE).

We encourage you to provide feedback or ideas for future issues and hope you take advantage of this opportunity to keep in touch. Comments can be emailed to geodata.clientservices@dPIPWE.tas.gov.au

An electronic version of this publication can be found at:

www.dPIPWE.tas.gov.au/locationmatters

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The new edition of Beaconsfield 1:25 000 Series map - available for purchase from Service Tasmania shops, TASMMap resellers and agents, and online at www.tasmap.tas.gov.au

Message from Kate Kent...



Every day we learn about new and emerging technologies and innovations but we don't often discover

the identity of the talented people behind these developments.

As the *Spatial Information Foundations* project reaches its final stages, it is rewarding to reflect not only on the success of the project, but also to particularly acknowledge the contribution of the people directly involved in that success, from the dedicated team in ILS' Geodata Services Branch to the creative and committed private businesses and individuals engaged in every phase of development.

We engaged the services of local companies Geometry, UXC Eclipse, XVT Solutions and Practice Management Services to undertake key roles in the development of critical components of the new LIST and its supportive infrastructure. Being able to draw on the local private business market for this specialist expertise was invaluable in our quest to efficiently and cost-effectively build a system to meet the needs of Tasmanian spatial information users.

In addition, we were able to leverage the expertise of national companies Geodata Australia, Applied Land Systems and Esri Australia (and Esri US) in cutting-edge work that paves the way for the anticipated transition to a numeric cadastral database.

As the new *Tasmanian Imagery Program* takes shape over the coming summer, we will continue to collaborate closely with other organisations to procure the services of private sector providers for the streamlined acquisition of remotely sensed imagery of Tasmania.

We know we can achieve so much more when we all work together:

I would also like to take this opportunity to extend a warm welcome to the new Surveyor General, Michael Giudici. Michael commenced in this role recently and we will have a follow-up story about his plans for the role in the next edition.

I hope you enjoy reading this edition of *locationmatters*.

*Kate Kent
General Manager
Information and Land Services Division*

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Cover image

Aerial photographs showing the impact of the January 2013 bushfires between Taranna and Eaglehawk Neck.



Have your say...

locationmatters aims to keep clients and members of the community informed about new developments and progress with existing projects, as well as introduce you to staff and the work they do.

Please take a few minutes to tell us what you think by completing the short questionnaire at www.dPIPWE.tas.gov.au/locationmatters.

Your feedback will help to ensure that we can continue to provide you with timely, relevant information in the most cost-effective format.

This publication has been printed on Revive Pure Silk, which is 100% recycled and is certified carbon neutral. It is manufactured process chlorine free (PCF) by an ISO 14001 certified mill.

Working at the frontline

the role of ES-GIS during the summer bushfires

Photograph Ian Stewart

The forecast

leading up to January 2013 indicated that it would be an average fire season in Tasmania, with expectations of some level of fire activity over the summer months. As it eventuated, ILS' Emergency Services GIS (ES-GIS) team was almost continuously involved in supporting fire operations for over three months, from early December 2012 through until mid-March 2013.

One of the worst fires of the season escalated at Inala Road, Forcett, on Friday 4 January, burning south of the Arthur Highway at Forcett, down to Dunalley and through a large part of the Forestier Peninsula, finally coming to a halt at Taranna on the northern end of the Tasman Peninsula.

Throughout the entire incident, ES-GIS worked as an integral part of Tasmania Fire Service's Incident Management Team, providing GIS and desktop mapping support. This included capturing, collating and analysing information about the location of the fire, and producing mapping products and 'spatial intelligence' for distribution to key decision-makers, incident managers and controllers, on-ground fire-fighters and the general public.

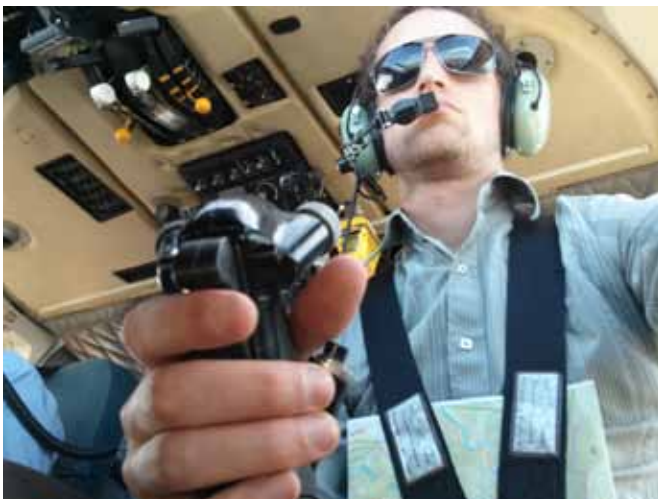
A typical day for the team started with a 6:00 am helicopter flight to determine

and record data on the extent of the fire, using GPS 'smart phone' technology and thermal imaging cameras to pinpoint active fire edges, spot fires and other hotspots. Some of this data was instantly relayed by email to enhance up-to-the-minute situational awareness in the incident management centre at Cambridge. The data was then incorporated into a mapped view for an 8:00 am operational briefing at Cambridge and simultaneously transmitted to Tasmania Fire Service Headquarters in Hobart to update information on the public website.

From the operational maps produced, the location of features such as critical infrastructure can be easily identified in relation to fire activity and containment lines. This spatial intelligence is a critical component of action plans used to determine objectives and strategies for incident resolution.

Throughout the emergency period, the ES-GIS team updated these maps with new information as it was received, preparing and printing maps at the end of every day in readiness for briefings and distribution to the many on-ground fire-fighters each morning. By the time the last map came out of the printer, it was time to pack up and get home for some well-earned rest before the next helicopter take-off at first light.

ES-GIS team member, Robb Meijers, communicates with the helicopter pilot while capturing bushfire extent data in January 2013.



A mobile phone GPS app showing the perimeter of the Downhams Road, Risdon Vale bushfire, captured from the helicopter.



The ES-GIS team and other emergency management personnel welcome the implementation of the new Common Operating Platform (COP), which will considerably enhance situational awareness capabilities in the future. For more information, see the Spatial Information Foundations project update on page 4.

*Aaron Cashion
Manager - Emergency Services GIS*

Many staff from across DPI/PWE were involved in both professional and voluntary roles during and after the January 2013 bushfires. Some staff volunteered to return from holiday breaks and others made themselves available outside normal working hours, including weekends.

The Information and Land Services Division (ILS) played a significant role in post-bushfire recovery activities, including the revaluation of well over 200 impacted properties across the Sorell, Tasman and Glamorgan Spring Bay municipalities, conducted through the Office of the Valuer General.

Immediately after the bushfires, surveyors from the Geospatial Infrastructure Branch worked in the field to identify and record property boundary evidence that had survived the bushfires, particularly in areas vulnerable to further loss of evidence through subsequent clean-up activities. Intensive survey control marking was also undertaken to support boundary re-marks in fire-affected areas.

Staff in the Land Titles Office carried out numerous document searches and certain fees associated with dealings (such as the replacement of Certificates of Title destroyed in the fires) were reimbursed. Staff from Service Tasmania ably assisted the Government Contact Centre in provision of a help-line for fire-affected members of the community and accepted over-the-counter donations for the Red Cross Bushfire Appeal.

Spatial

INFORMATION FOUNDATIONS

Rollout of exciting new products and services

The staged implementation

of outputs from the Spatial Information Foundations (SIF) project is off to a flying start, with release of the new **LISTmap** at the end of June generating great reviews and complimentary feedback from users right across government and business sectors.

While a great deal of work is going on behind the scenes to ensure smooth transition to the new technology, spatial data users and LIST subscribers should experience minimal or no disruption to their usual business practices, taking up and using the new and enhanced products and services as they are systematically released.

I love everything! Not sure what more you could possibly add but looking forward to seeing it. Thanks again."

*Evan Boardman
E3 Planning*

LIST subscribers will also have noticed a new-look login to the site. This is the first noticeable component of the totally revamped and more user-friendly website, and an integral component of the new access and security framework. Over

"LISTmap is very impressive both functionally and in appearance. Thanks very much!"

*Matt Emmerson
Spatial Science Officer,
Department of Transport and Main Roads
Queensland*

the next few months, existing land title and property components of LIST will be integrated into this new technology, along with new identity and authorisation services.

One of the final components to be rolled out towards the end of 2013 is the new, user-friendly spatial data and services directory. As well as being the source of authoritative metadata about spatial information, the directory is the key that enables easy discovery and the secure delivery of spatial data to end-users.

More and more users are now accessing spatial data for use in their own internal business systems through newly implemented, machine-to-machine web services. This behind-the-scenes development is delivering great benefits in government planning, operational and decision-making environments.

Tasmania's emergency management organisations welcomed the release of

the new Common Operating Platform (COP) at the end of June. After testing the application on a number of real incidents, Tasmania Police has advised that this is an extremely valuable tool for day-to-day internal use as well as for larger, multi-agency operations. The ability to share and access critical, authoritative information and live data feeds about the location of people, infrastructure and resources in an emergency situation – and depict this on a digital or hard copy map – means that our emergency service organisations are now much better equipped to plan, respond and help communities to recover from emergency incidents.

"A lot faster than the old version and a better look. The ability to change the layer transparency and easily change the layer order are excellent tools."

*Adrian Eberhardt
Director, PDA Surveyors*

Underpinning all this new technology for the delivery of spatial information are enhancements to the actual information being delivered. Considerable work has been undertaken to improve the quality of two significant foundation spatial



Changing of the guard

A tribute to Surveyor General Peter Murphy

datasets – remotely sensed imagery and cadastral (parcel and property boundary) data. Both form a vital base for other information about land, such as property ownership, the location of above and in-ground infrastructure, assets and environmental information.

Through SIF, the new *Tasmanian Imagery Program* is being established. The program will provide cooperative support structures and efficient processes within DPIPWE for the procurement, management, storage and delivery of remotely sensed information about Tasmania, including aerial imagery and LiDAR. The ultimate aim is to combine resources, avoid duplication and provide users with timely access to an appropriate range of imagery and elevation data.

Steady progress is also being made on transition to a new survey-based model for holding and managing parcel and property boundary information (numeric cadastre). This ground-breaking work is being keenly monitored by cadastral database managers in other Australian jurisdictions. A key benefit of this work has been finding a much-needed solution for the effective management of digital planning scheme information.

More information on any aspect of the project can be obtained by email to sif@dpiuwe.tas.gov.au or through the website www.dpiuwe.tas.gov.au/sif.

<http://maps.thelist.tas.gov.au>



Highly regarded

for his professionalism, strategic thinking and intellect, the recently retired Surveyor General of Tasmania, Peter Gregson Murphy, was known to his national colleagues as “*the general who brought together surveying and mapping*”.



Earlier this year, Peter’s colleagues on the Intergovernmental Committee on Surveying and Mapping (ICSM) acknowledged his ten-year contribution to the key national forum, conferring the title and paying tribute to Peter’s wisdom, energy and good humour.

First registered as a land surveyor in 1982, Peter worked in private surveying practices and the mining industry before joining the public sector. He specialised in software applications for digital terrain modelling before moving into management roles, with responsibility for Tasmania’s roads program quality systems, land asset management and the development of a web-based information service for Tasmania’s infrastructure and resources.

Appointed Surveyor General in 2003, Peter’s responsibilities included the regulation of surveying and place names, provision of surveying services for government, the Land Information System Tasmania (LIST) and associated spatial products.

In 2006, he sponsored a project to identify and prioritise the future needs of Tasmanian spatial information users, through the online *LIST Client Survey*. The findings of that work were used in development of the business case that resulted in funding for the current *Spatial Information Foundations* (SIF) project.

In 2008, Peter managed the implementation of new governance arrangements for spatial information in Tasmania, with establishment of the multi-sector Tasmanian Spatial Information Council (TASSIC) and the Tasmanian Government Spatial Committee.

He represented Tasmania on the Council of Reciprocating Surveyors Boards of Australia and New Zealand (CRSBANZ), chaired the Nomenclature Board of Tasmania, was a member of ICSM and chaired various national working groups on cadastral reform and Australia’s spatial information infrastructure.

Peter was instrumental in many innovative strategies and initiatives that will continue to deliver benefits to the surveying and spatial sciences disciplines across all sectors and the broader community for years to come. This was recognised in his being awarded **Spatial Professional of the Year** at the Surveying and Spatial Sciences Institute’s (SSSI) Tasmanian Spatial Excellence Awards in September 2012.

In retirement, Peter will continue to climb mountains and study philosophy at the University of Tasmania.

Michael Giudici took up the post of Surveyor General of Tasmania on 1 August 2013. Michael’s career spans a variety of management roles across public, private and industry sectors. President of the Institute of Surveyors Tasmania, a member of the Tasmanian Land Surveyors Accreditation Board and Fellow of the Surveying and Spatial Sciences Institute (SSSI), Michael was winner of the Service to the Spatial Community award at the Asia-Pacific Spatial Excellence Awards in 2007.

Blueprint for better boundary alignment

the economic benefits of a more accurate cadastre

Significant progress

is being made in improving the accuracy of one of Tasmania's most important spatial datasets – the cadastre.

Over recent years, the Information and Land Services Division (ILS) has been working collaboratively with a number of local government authorities to progressively upgrade the foundation land parcel and property boundary information that forms the State's digital cadastre.

Boundaries for over 12,500 parcels of land in the Launceston municipality were upgraded this year, using survey data previously collected in a joint project with Launceston City Council. The data was converted to a *Parcel Fabric* format to assess the capacity of a numeric cadastral database (NCDB) to provide improved accuracy through the survey adjustment process. This format is also being used in a pilot project to evaluate the feasibility of migrating to a numeric cadastre. It is hoped that this work will allow greater opportunities for spatial accuracy, as well as the ability to better manage and maintain boundary alignment with other administrative data, such as planning zones.

Some Launceston property boundaries were previously over eight metres out of position. The integration of upgraded land parcel and property boundary information enables better and more precise alignment with other connected spatial layers, including the location of underground services such as water, sewerage, gas and telecommunications. It also links closely with associated land information such as valuation and property ownership.

Cadastral information underpins the economic, social and environmental fabric of Tasmania by supporting evidence-based decisions across government, industry and the community.

The demand for more accurate data continues to increase exponentially, in line with the rapidly growing dependence by more – and more varied – organisations upon spatially-enabled information for internal planning and development purposes. This demand is prominent among local government authorities and

utility service providers, who now require a positional accuracy of better than 0.3 metres of true position in urban areas.

The State's cadastre was initially derived from 1:5 000 and 1:25 000 scale maps, with positional accuracy of around 3.0 metres in urban areas. Significant work has since been undertaken to upgrade completion and accuracy. Approximately 30% of the State's cadastre is now better than 1.0 metre of true position.

Other successful cooperative data upgrade projects have been undertaken with Glenorchy, Clarence, Waratah-Wynyard and Circular Head Councils, and planning for new projects is underway.

Any organisations requiring areas of improved cadastral accuracy are encouraged to contact ILS to discuss opportunities for further joint upgrade projects.

*Andrew Tomes
Manager, Spatial Data*

Area of poorly defined cadastre showing misalignment of other GIS layers.



Area of upgraded cadastre showing alignment of other GIS layers.



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Towards location intelligence

maximising the value of spatial information

TASSIC has released a new three-year plan

to encourage broader, more effective use of spatial information across the Tasmanian community.

Since it was established in 2008, The Tasmanian Spatial Information Council (TASSIC) has put Tasmania at the forefront of developments in location-based information. Its first strategic plan spearheaded significant growth and investment in Tasmania's spatial information infrastructure.

Launching the 2013-2016 strategic plan, the Minister for Primary Industries and Water, Bryan Green, said the work of TASSIC was an outstanding example of how government, business, academia and industry could work together to achieve great results.

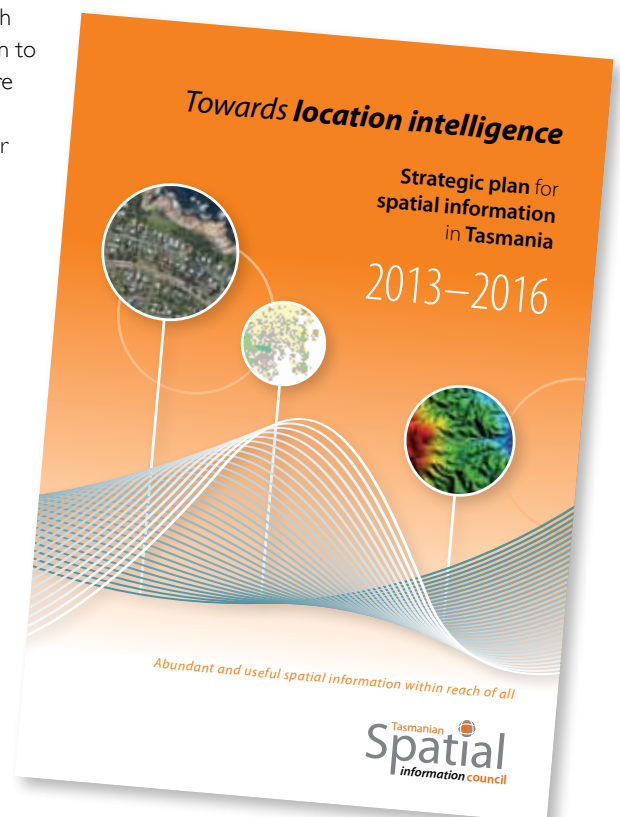
"Through this important forum, the Tasmanian Government is better placed to more fully appreciate and identify opportunities in which we can put spatial information to work and achieve better, more cost-effective outcomes for the Tasmanian community," Mr Green said.

"The new strategic plan outlines the steps necessary to build on the Government's significant investment in *Spatial Information Foundations* and sets Tasmania on the right course to achieve maximum benefit from that investment."

Council chair, Gary Nairn, said that a key focus for TASSIC over the next three years is to engage more closely with a diversity of industry groups, provide a forum to resolve issues, promote new technology and educate users on the benefits of 'location intelligence'.

TASSIC's 2013-2016 strategic plan is available at www.tassiac.org.au.

For more information or to enquire about TASSIC's advocacy and advisory role, please email info@tassiac.org.au.



Cover of the new strategic plan.



Aboriginal and Dual Naming Policy

The Department of Primary Industries, Parks, Water and Environment, through the ILS Division, worked closely with the Office of Aboriginal Affairs in the Department of Premier & Cabinet and the Tasmanian Aboriginal Centre on the successful development of the recently launched Aboriginal and Dual Naming Policy. This new policy provides for the preferential assignment of Aboriginal names for previously un-named natural features or places, as well as allowing for the addition of Aboriginal names to the official names of already named natural features or places. Seven names were recently gazetted for public consultation.

More information about the policy is available through the DPIPWE website www.dpipwe.tas.gov.au/nomenclature.

Surveyors General: 1825 – 2013

As part of ongoing work on preserving the history of Tasmania and Tasmanian people, ILS has developed a pictorial honour board that depicts and records the Surveyors General of Tasmania, from the first appointment in 1825 through to the present day.

The Surveyor General honour board series is now available on the DPIPWE website www.dpipwe.tas.gov.au.

We have been able to locate photographs of almost all those who have held the position of Surveyor General over the years, but there are three names without a 'face': George Frankland (1827-38), Edward Boyd (1839-41) and William Nevin Hurst (1925-37). If you have any information that can help us find the missing faces, please contact the Office of the Surveyor General, email osg@dpiipwe.tas.gov.au.

Early Treasures on display at Agfest

The ILS Division hosted an 'Early Treasures' display at Agfest in May, featuring a number of historical maps and plans of early settlements in north and north-west Tasmania.

Expanding on the theme of the permanent exhibition in the Service Tasmania shop at 134 Macquarie Street Hobart, the 'Early Treasures' Agfest display attracted a steady stream of patrons and a great deal of interest in the striking, high quality digital reproductions from this prized collection.

The framed reproduction of Sprent's Map of Tasmania (1859) was extremely popular with visitors, generating many sales and enquiries throughout the three-day event.

An extensive electronic catalogue of around 100,000 scanned historic plans was also available on site, with enthusiastic ILS staff members in attendance to assist with enquiries.

Minister Bryan Green with DPIPWE Secretary Kim Evans, Rob Higgins from ILS and Agfest coordinator Lynn Broos.



Above: detail of the new Frenchmans Cap Walk Map.

New TASMAM products

Recently released map products are now available for purchase online at www.tasmap.tas.gov.au or from Service Tasmania shops, TASMAM resellers and agents.

1:25 000 Topographic/Cadastral Maps

- Beaconsfield
- Stowport
- Leake



1:100 000 Topographic Maps

- King Island
- Tamar
- Huon



National Park and Day Walk Maps

- South Coast Walks Map
- Frenchmans Cap Walk Map
- Hartz Mountains National Park Map



Other Maps

- Land Tenure Map of Tasmania 2013



More details about recent releases can be found at www.tasmap.tas.gov.au

Now available online at www.tasmap.tas.gov.au

Direct enquiries to

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