

Department of Environment, Land, Water and Planning Annual Report 2015-16

Additional information available on request

In compliance with the requirements of the Standing Directions of the Minister for Finance, details of the items listed below have been retained and are available to the relevant ministers, Members of Parliament and the public on request (subject to the provisions of the *Freedom of Information Act 1982*).

To ensure the department is meeting its accountability and compliance requirements, some of this additional information has been included in the Annual Report where relevant.

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The information is available on request from:

Phuong Tram
Director, Budget and Planning, Finance and Planning
Department of Environment, Land, Water and Planning
8 Nicholson Street
East Melbourne Victoria 3002
Telephone: (03) 9637 8886
Email: phuong.tram@delwp.vic.gov.au



Environment,
Land, Water
and Planning

a) A statement that declarations of pecuniary interests have been duly completed by all relevant officers of the department

Declarations of pecuniary interests have been duly completed by all relevant officers.

b) Details of shares held by senior officers as nominee or held beneficially in a statutory authority or subsidiary

No shares are held by a senior officer as nominee or held beneficially in a statutory authority or subsidiary.

c) Details of publications produced by the department about the activities of the department and where they can be obtained

Publication	Date produced	Availability
Department of Environment, Land, Water and Planning Annual Report	October 2015	Available online (www.delwp.vic.gov.au and www.data.vic.gov.au) or from our Customer Service Centre on 136 186

d) Details of changes in prices, fees, charges, rates and levies charged by the department for its services, including services that are administered

Details of fees and charges are available on the department's website at www.delwp.vic.gov.au.

e) Details of any major external reviews carried out in respect of the operation of the department

Major external reviews	Conducted by	Purpose	Released
Managing and Reporting on the Performance and Cost of Capital Projects	Victorian Auditor-General	The audit examined how effectively agencies manage the scope, cost and delivery of major capital projects.	8 June 2016 (re-tabled)
Monitoring Victoria's Water Resources	Victorian Auditor-General	This audit examined the effectiveness and efficiency of the long-term water quality monitoring of Victoria's waterways and bays.	25 May 2016
Reducing the Burden of Red Tape	Victorian Auditor-General	The audit examined whether red tape reduction initiatives have been effective in reducing the burden of regulation in Victoria.	25 May 2016
Local Government service delivery: Recreational Facilities	Victorian Auditor-General	The audit assessed the effectiveness of local government service delivery with a focus on recreational activities and facilities.	23 March 2016
Access to public sector information	Victorian Auditor-General	The audit examined whether agencies were effectively implementing the government's Information Management Framework to improve access to public sector information.	10 December 2015
Water Entities: 2014-15 Audit Snapshot	Victorian Auditor-General	Annual financial audit of Water Entities.	10 December 2015
Portfolio Departments and Associated Entities: 2014-15 Audit Snapshot	Victorian Auditor-General	Annual financial audit of Departments and Associated Entities.	9 December 2015
East West Link Project	Victorian	The objective of the audit was to determine if the state has effectively managed the East	9 December 2015

Major external reviews	Conducted by	Purpose	Released
	Auditor-General	West Link project and related costs.	
Responses to performance audit recommendations: 2012-13 and 2013-14	Victorian Auditor-General	The audit examined the extent of agency response to, and monitoring of, VAGO performance audit recommendations.	8 December 2015
Local Government: 2014-15 Audit Snapshot	Victorian Auditor-General	Annual financial audit of Local Government Councils.	25 November 2015
Independent Investigation of the Lancefield-Cobaw Fire	Independent Lancefield-Cobaw Fire Investigation Team	The investigation examined the adequacy of planning and resourcing of the Lancefield-Cobaw Croziers Track planned burn; the appropriateness of the weather and other conditions for conduct of the planned burn; what caused the planned burn to break containment lines; decision making, management and control of the planned burn and the adequacy of communication with the community.	4 November 2015
Unconventional Gas: Managing Risks and Impacts	Victorian Auditor-General	The audit examined whether Victoria is well placed to effectively respond to the potential environmental and community risks and impacts of onshore unconventional gas activities in the event that these proceed in this state.	19 August 2015

f) Details of any major research and development activities undertaken by the department that are not otherwise covered either in the report of operations or in a document which contains the financial statement and report of operations

Major research and development	Conducted by	Purpose
Victorian Climate Initiative	Bureau of Meteorology CSIRO	The Victorian Climate Initiative is a research program tasked with providing guidance on climate variability, predictability and change, focusing on what this means for Victorian water resources. The program runs aims to improve DELWP assessment of the risks changes in climate pose to water resources across the state.
Wetland environmental watering monitoring and assessment	Waters Edge	Development of a statewide monitoring program to determine outcomes of environmental watering of wetlands, Action 8.12 under the Victorian Waterway Management Strategy.
Customer and Stakeholder Intelligence Research	AMR	To measure the level of customer and stakeholder satisfaction with the department and the health of the department's relationships with key stakeholders.
Integrated Forest Ecosystem Agreement	Melbourne University	The department funds an evergreen contract with the University of Melbourne to the value of approximately \$3 million annually. This funding supports long term applied research into vulnerability, water, biodiversity, landscape hazards, and carbon targeted at meeting DELWP's policy and operational delivery.
Bushfire Climatology	Monash University	To develop regional climatology (risk and planned burning) for use in risk based fire management planning.
Severe Fire Behaviour – Improved planning responses	University of Melbourne	To enable the programming of Phoenix Rapid-fire to support bushfire management and other planning responses by better characterising bushfire behaviour and damage potential, and developing functions to

Major research and development	Conducted by	Purpose
		better apply Phoenix to support land use and development planning.
Fire Severity Rating	Monash University	To develop new fire danger rating/risk assessment measures based on power of fire/energy release measures using national and international case studies.
Probability of Fire Ignition and Escalation	RMIT	To develop a probabilistic framework for prediction of natural and human caused ignitions.
Smoke impacts on community health and social perceptions	University of Tasmania	To understand and enable management of community health responses to smoke using knowledge of physiological and psychological response of vulnerable communities, and the likely levels of smoke these groups may encounter through a better understanding of smoke emissions (Bushfire and Natural Hazards Cooperative Research Centre Schedule 10) and transportation (Bushfire and Natural Hazards Cooperative Research Centre Schedule 9).
Smoke transportation and emissions modelling	CSIRO	To develop linked fire behaviour/fuel consumption and atmospheric model to predict smoke generation/accumulation-emission modelling component.
Managing Scale and Uncertainty in Fire Management Planning	La Trobe University	To develop remote sensing techniques to assess fire severity and patchiness on fuel hazard/habitat structure in foothill forests. This project gathers the known monitoring data for the past 40 years in the foothills forests and develops an understanding of the relationships with fire and landscape factors to predict growth stage and ecological diversity, leading to development of resilience metrics and models to support decision making.
Growth Stage and Habitat analysis	La Trobe University	To develop models for growth stage, habitat development and use at a landscape scale for use in assessing fire management outcomes.
Social values in bushfire management decision making Project	University of Melbourne Natural Decisions	To identify key areas of work needed to support integration of community values into Strategic Bushfire Management Planning.
Estimating the social, economic, and environmental cost and benefits of bushfire preparedness and response operations in the 2013-14 season	University of Wollongong	To describe the actual and potential costs and benefits of bushfire preparedness and response operations, through the assessment of specific case studies and an evaluation of overall fire season analysis.
Multiplatform comparison to map burn extent and severity	CSIRO	To analyse imagery from five different remote sensing platforms and ground truth data for ten planned burns in order to determine the advantages and disadvantages of each platform to the Planned Burn Severity Mapping Project.
Assessment and calibration of fuel moisture meters	University of Melbourne	To assess the performance and operating characteristics of fuel moisture sensors deployed across the DELWP Phase II sensor network, determine the relationships between litter and sensor fuel moisture in a range of vegetation types and develop guidelines for determination of location and characteristics of monitoring sites for a state-wide sensor network.
Science based monitoring, evaluation	La Trobe University	To scientifically review and refine DELWP's existing approach to monitoring, evaluation and reporting of Bushfire Management Outcomes; and to develop and document refined methods and

Major research and development	Conducted by	Purpose
and reporting		evaluation approaches to support a consistent approach to data collection and evaluation of the outcomes by the Bushfire Risk Landscape teams.
Bushfire and forests monitoring data validation and analysis	Interpine	To evaluate the potential to leverage data management efficiencies between the Victorian Forests Monitoring Program and the Victorian Bushfire Monitoring Program.
Relationships between flora, fauna, habitat attribute and vegetation growth stages in Victorian Tall Wet Forests	University of Melbourne	To refine the ecosystem resilience inputs into adaptive fire management and planning for Victorian Tall Wet Forests. It will gather new and collate existing (flora, fauna and structural) data and test, model and further develop the relationships between fauna, habitat attributes and vegetation growth stages and resilience for this ecosystem.
Resilience metric sensitivity analysis and growth stage optimisation in fragmented landscapes	University of Melbourne	As a component of the scientific review of the bushfire monitoring evaluation and reporting approach, this project will use an extensive vegetation dataset to explore how sampling design and choice of focal species influences the outcome of growth stage optimisation processes. It will then develop methods to better utilise resilience metrics in fragmented landscapes.
Managing bushfire in tall mist forests - fuel hazard and moisture relationships	University of Melbourne	To assess processes which drive the flammability of tall forests, the change as forests age, whether conditions exist for the planned burning of tall forests with low intensity fire and the modelling of those conditions.
Assessing and incorporating social, economic, ecological and community safety values of forests in bushfire risk decision-making.	University of Melbourne	To understand the range of values relevant to bushfire risk management, to develop methods to measure these values at different scales (e.g. local, Regional, State) and to incorporate values into bushfire risk decision making. The project will also look at different processes to involve communities in decision-making and to understand public preferences on key value questions.
Integrated Forest Ecosystem Agreement	Melbourne University	The department funds an evergreen contract with the University of Melbourne to the value of approximately \$3 million annually. This funding supports long term applied research into vulnerability, water, biodiversity, landscape hazards, and carbon targeted at meeting DELWP's policy and operational delivery.
Leadbeater's Possum targeted surveys	Arthur Rylah Institute	Targeted surveys undertaken by DELWP to assist in identifying and protecting 200 new Leadbeater's Possum colonies in State forest.
Species Models, Ecological Vegetation Classes and Strategic Management Prospects (previously NaturePrint)	Arthur Rylah Institute	The production of spatial models that are informative for policy development and management purposes within DELWP. These products are sought by a range of DELWP stakeholders, and will be used as key components for Native Vegetation reform, Ecological Vegetation Class review and other projects.
Melbourne Strategic Assessment - Ecological Decisions Systems	Arthur Rylah Institute	The expansion of Melbourne's Urban Growth Boundary will impact several species and ecological communities listed under Federal legislation. The Melbourne Strategic Assessment Monitoring and Reporting Framework has been established to measure the progress of the program.
Murray Darling Basin Authority Population Models	Arthur Rylah Institute	Development of a set of population models for selected native fish to estimate the response of populations to flow management. It is anticipated that these models will provide an important tool for annual and long-term planning at both Basin and regional scales.

Major research and development	Conducted by	Purpose
Commonwealth Department of Environment and Energy - Fish Habitat Network: Helping Victorian recreational fishers habitat	Arthur Rylah Institute	This project targeted engaging Victorian recreational fishers to encourage involvement in natural resource management and biodiversity protection. Targeted communications, capacity-building activities and on-ground works will be undertaken to foster ownership and protection of fish habitat within the recreational fishing community; restore and rehabilitate coastal environments and urban waterways; and help enhance and conserve native fish populations. Key biodiversity outcomes include healthier, better protected, and resilient aquatic habitats and fisheries.
Rabbit Management	Arthur Rylah Institute	Research and monitoring to reduce the impacts of rabbits in Victoria.
Murray Darling Basin Fish Survey 2014-2018	Arthur Rylah Institute	Under the Basin Plan Monitoring and Evaluation program, Basin scale fish condition monitoring has been identified as a priority in 2014 and onwards to support tracking of the high level fish targets identified in Schedule 7 of the Basin Plan as well as more specific targets identified in the Basin-wide environmental watering strategy.
Victorian Waterway Management Strategy Instream Habitat	Arthur Rylah Institute	Demonstrating qualitative links between instream woody habitat metrics and river fish populations to inform habitat restoration.
Victorian Environmental Flows Monitoring and Assessment Program Stage 5	Arthur Rylah Institute	Continue the assessment and analysis of existing data, primarily for native fish and riparian vegetation; demonstrate the ecological importance of environmental water use in the state of Victoria; and increase the effectiveness of the program's contribution to the adaptive management of environmental water.
Native Vegetation Modelling for South Australia	Arthur Rylah Institute	Undertake modelling and remote sensing of vegetation type and extent across the State of SA including changes in extent and land cover between 1987 and 2015.
Broken River Passive Integrated Transponder (PIT) Tag Reader Installation	Arthur Rylah Institute	Installation of 2 PIT tag reader systems and two weeks of fieldwork in the Broken River.
Snowy eFlow Project - Genoa River Australian Bass	Arthur Rylah Institute	Determine links between flow regime and recruitment of Australian bass in the Genoa river.
Deer and livestock diseases	Arthur Rylah Institute	Evaluate the roles of wild deer in the transmission of diseases that could affect the Victorian livestock industry.
Long Term Intervention Monitoring - Fish Responses to Environmental Water	Arthur Rylah Institute	To examine the responses of the fish to environmental flows in the Goulburn river.
Fire and Emergency Management Advice, Tolerable Fire Interval and data analysis	Arthur Rylah Institute	Refinement of tolerable fire interval and resilience datasets, provision of advice to Bushfire Risk Landscapes and Fire and Emergency Management, preliminary analysis of Landscape Mosaic Burns datasets.
Riparian intervention monitoring project	Arthur Rylah Institute	Building evidence to demonstrate the return on investment in riparian management, using a robust experimental design at a subset of riparian intervention sites to measure ecological responses and understand sources of variability.

Major research and development	Conducted by	Purpose
Aquatic Health Monitoring Project - Part 2	Arthur Rylah Institute	Collect data to support the prioritisation and adaptive management of aquatic projects in the Murray region.
Data enhancements and monitoring prioritisation for Victorian Bushfire Monitoring Program	Arthur Rylah Institute	Define the metadata structure for the Victorian Bushfire Monitoring Program datasets; Review the Geometric Mean Abundance / Growth Stage Structure analyses database; Prioritise areas to inform where to invest in monitoring to assist with MER planning.
Snowy eFlow Project - Snowy River Estuary Perch	Arthur Rylah Institute	Determine links between flow regime and recruitment of estuary perch in the Snowy river.
Koala translocation trial	Arthur Rylah Institute	Plan and implement a trial translocation of koalas as part of the DELWP Cape Otway welfare intervention.
Pre/Post Fire Flora Monitoring and Flora Vital Attributes Database Curation	Arthur Rylah Institute	1) Pre/Post Fire Flora Monitoring of Planned Burning on Public Land - to undertake monitoring of flora in planned burn areas using standard protocols at a selection of 110-120 sites in Victoria and curate the database. 2) Flora Vital Attributes Database Curation to undertake the annual flora vital attributes database curation including incorporation of new data, responding to queries, data management and annual summary report.
Monitoring of Macquarie Perch in the Goulburn Broken Catchment	Arthur Rylah Institute	Addressing key knowledge gaps for Macquarie perch in the Goulburn Broken Catchment.
Lower Latrobe River fish assessment and response to flow variability	Arthur Rylah Institute	Investigate flow requirements for fish in the lower Latrobe River; Survey fish populations in the lower two reaches of the Latrobe River (Rosedale to Lake Wellington) to document fish diversity, abundance and distribution.
Western Treatment Plant Bird Monitoring 2015-2016	Arthur Rylah Institute	Research services across three waterbird monitoring sub-projects; waterfowl/terns, shorebirds, and ibis at the Western Treatment Plant.
Monitoring Framework for Threatened Species	Arthur Rylah Institute	Develop a framework that provides a robust and transparent process for selecting from proposed threatened species monitoring projects.
Establish an ecosystem health monitoring and reporting framework for Port Phillip Bay and Westernport	CSIRO	To develop conceptual models on key marine ecosystems for Port Phillip Bay and Westernport, and to develop and refine indicators of environmental health from these conceptual models to inform the first State of the Bays report in late 2016.
Provision of expert marine science, remote sensing and geographic information services	Deakin University	To consolidate all spatial data on habitats in Port Phillip Bay, other major embayments and the Victorian near shore coastline to provide a contemporary, single source of truth on the spatial distribution of marine habitats across Victoria.

Major research and development	Conducted by	Purpose
Weed control in the Western Grassland Reserves. This project consists of two experimental reports- Eradication and control options for cane needle grass, <i>Nassella hyalina</i> (not completed) and Adaptive management of <i>Galenia pubescens</i> (to be completed November 2016)	Department of Economic Development, Jobs, Transport and Resources	To develop and implement broad scale adaptive management plans for controlling grassland weeds in the Western Grassland Reserves on the Victorian Volcanic Plains. Focus species include <i>Nassella hyalina</i> and <i>Galenia pubescens</i> .
Central City Built Form Review	DELWP Hayball Pty Ltd SGS Economics and Planning Pty Ltd Ernst & Young Ramsay Consulting Global Wind Technology Services Pty Ltd Ken Maher Consulting Pty Ltd Helen Day Urbanism, Wood & Grieve Engineers Ltd Hodyl & Co David Lock Associates Pty Ltd Sophie Jordan Consulting Pty Ltd	To deliver on the Victorian Government's election commitment to enhance Melbourne's liveability by reviewing the 'built form' planning provisions in the central city (Hoddle Grid and Southbank). Pronounced growth in the number and density of new developments is challenging both the urban amenity that drives the liveability and the efficient operation of the planning processes that oversee it. The review seeks to deliver improved public amenity, boost investment, and ensure developments enhance Melbourne's long-term liveability.

g) Details of overseas visits undertaken including a summary of the objectives and outcomes of each visit

Title of officer	Countries visited	Objectives	Outcomes
Senior Research Scientist	Netherlands	To attend and present at the International Conference on River Connectivity Best practices and Innovations from 20 to 26 June 2015, showcasing research into fish movement and migration and the role of connections between tributaries and mainstream habitats as corridors for the movement and migration of aquatic fauna across river networks.	Participating at this conference provided the opportunity to showcase current research into fish movement and connectivity in Victoria, direct access to expertise from around the world in the area of fish movement and migration and river connectivity best practices and innovations, increased knowledge of approaches to managing and maintaining connectivity for sustaining populations of riverine fish.

Title of officer	Countries visited	Objectives	Outcomes
		Due to an error this visit was not included in the 2014-15 Annual Report.	
Chief Fire Officer	Chile	To attend, at the invitation of the Australian Ambassador to Chile, to explore how Victoria might support their request to conduct training on eucalyptus wildfire management for the volunteers of the Valparaiso Fire Brigade. This followed Valparaiso (a UNESCO World Heritage site surrounded by eucalypt forests), experiencing the largest wildfire in its history in April 2014, resulting in 15 deaths and destroying 3,200 houses.	<p>The visit provided an opportunity to establish relationships on behalf of the State of Victoria with forest firefighting agencies in Chile and facilitate international sharing of knowledge and information regarding training and firefighter safety and standards.</p> <p>A true partnership for the state with the city of Valparaiso and Chile on the basis of forest and land management practices was forged through several productive meetings and site visit with a range of officials, including the Australian Ambassador, to Chile.</p> <p>The visit provided an important opportunity to share forest firefighting knowledge with our international counterparts and gain a better understanding of what support could be required in the future.</p>
Manager, Radio and Information Systems	California, USA	To attend by invitation as a guest speaker and present DELWP initiatives and gain insight into the future direction of information technology for emergency management at the Environmental Systems Research Institute (ESRI) User Conference in San Diego, USA from the 13th to 25th July 2015.	The traveller was the only international guest invited to present in the plenary session to over 16,000 participants and this provided an opportunity to represent DELWP and the Victorian Emergency Services Sector as a world leader in the use of Information and Communications technologies at this major international conference and gaining exposure to the latest developments in information, communication and technology solutions for emergency management to maximise the benefits of our investment in these technologies.
Manager, Floodplain Management	California, USA	To attend and present at the ESRI User Conference in San Diego, USA, from 17 to 31 July and receive on behalf of the Department, an ESRI Special Achievement in GIS (SAG) Award for Floodzoom - Flood Intelligence Platform.	The traveller showcased FloodZoom and discussed Floodplain Management policy directions with relevant agencies. Floodzoom received an international award for its innovative GIS Technology. Several opportunities to share with USA Agencies were being explored and this builds on Victorian Government relationship with the Californian Governor's Office of Emergency Services. Discussions with several Californian Agencies have enriched the policy development in the Victorian Floodplain Management Strategy.
Senior Consultant	Singapore	To represent the National ePlan Working Group at the 13th South East Asian Survey Congress and to present a requested paper to the Conference on the 'Digital Cadastre: Land XML Implementation in Australia' including a visit to the Singapore Land Authority to review the progress made by the Singapore Land Authority towards a digital plan lodgement and cadastral	The Congress provided a great opportunity for the representative to update delegates from other countries about the Digital Cadastre Project in Australia as well as the 3D Cadastre investigation in Victoria. It also resulted in further collaboration between Victoria and other jurisdictions investigating 3D cadastral (e.g. Singapore, New-Zealand and New South Wales).

Title of officer	Countries visited	Objectives	Outcomes
		system.	
Deputy Secretary – the former Land, Fire and Environment	Canada and United States of America	To attend, at the invitation of the Canadian Interagency Forest Fire Centre, to see firsthand and acknowledge the contribution of Australian firefighters on deployment and further build partnerships with British Columbia and explore broader synergies and opportunities relating to issues of climate change and forest management. To meet with senior officials within the USA forest and fire agencies to further discussion on partnerships and agreements and reinforce the importance of international partnerships.	<p>The visit provided an important opportunity to recognise contribution of Australian firefighters on deployment and gain insights on how future deployments could be improved.</p> <p>The relationships for the state with the USA and Canadian Fire Services was further developed on the basis of land and fire management practices (including planned burning).</p> <p>Discussions were also initiated on broader, interrelated matters of climate change and forest management and opportunities for mutually beneficial exchanges and sharing of information. Significant progress was made in discussion on mutual aid arrangements for sharing of response resources and knowledge sharing between Australia and USA.</p>
Chief Fire Officer	Canada and United States of America	To attend, at the invitation of the Canadian Interagency Forest Fire Centre, to see firsthand and acknowledge the contribution of Australian firefighters on deployment and further build partnerships with British Columbia and explore broader synergies and opportunities relating to issues of climate change and forest management. To meet with senior officials within the USA forest and fire agencies to further discussion on partnerships and agreements and reinforce the importance of international partnerships.	<p>The visit provided an important opportunity to recognise contribution of Australian firefighters on deployment and gain insights on how future deployments could be improved. The relationships for the state with the US and Canadian Fire Services was further developed on the basis of land and fire management practices (including planned burning).</p> <p>Discussions were also initiated on broader, interrelated matters of climate change and forest management and opportunities for mutually beneficial exchanges and sharing of information. Significant progress was made in discussion on mutual aid arrangements for sharing of response resources and knowledge sharing between Australia and USA.</p>

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Senior Scientist, Ecological Modelling	Montpellier, France	To attend as an invited speaker at the 2015 International Congress for Conservation Biology including attendance at an International Workshop on sustainable land use funded through research collaboration between Arthur Rylah Institute (ARI) and the University of Canberra representing a formal project milestone.	<p>The traveller presented ARI research on Systematic Conservation Planning at the 2015 International Congress for Conservation Biology and attended a 3 day workshop with international collaborators to progress scientific publication of related work.</p> <p>Key outcomes from conference attendance includes valuable feedback (expert review) on the methodology and exposure to emerging methods in conservation and land use planning, thus enhancing the capacity of ARI and the department in strategic management and conservation planning. This enhanced capacity will improve biodiversity outcomes and enable more efficient allocation of resources in biodiversity management across the State.</p> <p>The conference and subsequent workshop has also provided international exposure (via conference presentation and high profile journal publications) of research conducted at ARI, leading to enhanced reputation for ARI and DELWP internationally (e.g. <i>Nature</i> 535, no. 7610 (2016)). The trip has also strengthened collaborative links with national (e.g. University of Canberra) and international research institutes (e.g. Lancaster and Cambridge Universities, Brazilian Agricultural Research Corporation, Stockholm environment Institute).</p>
Manager, Geodetic Survey	Boulder, Colorado	To participate in an inaugural Global Geodetic Observing System (GGOS) Workshop from the 8th to 15th August 2015 which focussed on international geodetic metadata standardisation and present the pioneer work of Australia's Intergovernmental Committee of Surveying and Mapping Permanent Committee on Geodesy's eGeodesy Working Group of which the traveller is the Chair.	<p>Acknowledging that the initial scope of GeodesyML was to serve the needs of Australian and New Zealand jurisdictions in their datum maintenance activities, the workshop participants recognised that the standards developed by the Permanent Mapping Committee eGeodesy Working Group are the best available international standard (albeit in Beta) which permit machine-to-machine transfer of geodetic data and metadata. GeodesyML was unanimously recognised as a viable foundation upon which to build a truly international geodetic XML schema to support the data and metadata needs of the global observing systems. Following presentations from a number of GGOS representatives on the present issues relating to data and metadata management, GGOS Working Group has a much better understanding of how the eGeodesy Working Group standards can be integrated, and not interfere with, other international standards (e.g. ISO19115 for more general metadata requirements). As a first step, GGOS endorsed the recommendation to adopt and extend the model to satisfy the needs of the GNSS community for the management and exchange of International GNSS Service Site Log metadata. It is anticipated that similar</p>

Title of officer	Countries visited	Objectives	Outcomes
			extensions will also be undertaken for the other observing systems once its application to GNSS metadata has been demonstrated.
Manager, Science Communication and Collaboration	Oregon, United States of America	To attend by invitation and deliver an oral presentation at the 145th Annual Meeting of the American Fisheries Society 2015 from the 16-23rd August in Portland, Oregon, USA showcasing emergency recovery action to support threatened fish communities and associated recovery of human fire-affected communities.	The traveller presented at a special session entitled 'Rehabilitating Native Fish Populations in Australia's Murray-Darling Basin: Integrating Research, Management and Community Advocacy'. Key outcomes from attendance are direct access to expertise from around the world in the area of threatened species recovery and effective engagement and science communication and showcasing our work into integrating natural and human recovery in fire-affected communities in Victoria.
Director, Structure Planning	Dili, Timor-Leste	Travel to Timor-Leste by a Planning Expert from 24-29 August 2016, was required as the National Government of Timor-Leste had requested support from the Victorian Government in progressing a focus on urban and land-use planning. The request builds on a 12 year partnership between the two Governments.	Key outcomes from this visit includes strengthening of the official bi-partisan partnership between the Victorian Government and the National Government of Timor-Leste including showcasing expertise in urban and land use planning by demonstrating an international leadership role and strengthening development in the Timorese community through capacity building activities.
Senior Manager, Climate Change	Brazil	To attend and contribute to an Australian delegation, led by CSIRO from 21-28 September 2015, funded by the federal government that is meeting with Brazilian Government officials to discuss climate change adaptation.	The traveller delivered a presentation on climate change adaptation and took part in panel conversations. Key outcomes from attendance are benefits to the achievement of climate change election commitments to restore Victoria as a leader in climate change action and statutory requirements including the development of the second Victorian Climate Change Adaptation Plan. The trip also provided a unique opportunity to develop leadership and networking skills.
Chief Executive, Capital Projects	San Diego, California	To attend and present at the International desalination Association Congress in San Diego, California in September 2015.	The traveller presented a paper on 'Performance Based Environmental Assessment: The Victorian Desalination Project Experience' at the 2015 International Desalination Association World Congress (premier event on desalination) held in USA. Participation contributes to the effective ongoing management of the Victorian Desalination Project Public Private Partnership Contract.
Director, Knowledge and Engagement	Canada and United States of America	To finalise the department's involvement with the international deployment of firefighters to the USA including meeting with key stakeholders to further develop partnerships with the USA and Canadian Forest and Fire Agencies from 25 September to 7 October 2015.	Key benefits from this trip included developing and maintaining relationships on behalf of the State of Victoria specifically EMV in forest firefighting, sharing of knowledge and information regarding training and firefighter safety and standards, enhancing the partnership for the State with the USA and Canadian Fire Services on land and fire management practices including planned burning, mutual aid

Title of officer	Countries visited	Objectives	Outcomes
			arrangements for sharing of response resources and initiating discussions on broader, interrelated matters of climate change and forest management and opportunities for mutually beneficial exchange and sharing information as well as collaborative development of knowledge, systems and technology.
Fire and Land Officer / Airbase Operator	Indonesia	To travel to Indonesia in response to a formal request from the Indonesian government for the provision of a fixed wing capability (including support staff) to combat fires that are causing significant smoke haze within South East Asia including Singapore and Malaysia from 12-20 October 2015.	This was the first time Victoria had participated in a deployment to Indonesia which represented a significant opportunity to contribute as part of an Australian deployment to Indonesia and to gain insights into new areas of fire behaviour and management practices which will assist with the establishment of new partnerships and relationships and further consolidate Victoria's reputation as a leader in Aviation Services.
Field Services Officer / Airbase Operator	Indonesia	To travel to Indonesia in response to a formal request from the Indonesian government for the provision of a fixed wing capability (including support staff) to combat fires that are causing significant smoke haze within South East Asia including Singapore and Malaysia from 12-20 October 2015.	This was the first time Victoria had participated in a deployment to Indonesia which represented a significant opportunity to contribute as part of an Australian deployment to Indonesia and to gain insights into new areas of fire behaviour and management practices which will assist with the establishment of new partnerships and relationships and further consolidate Victoria's reputation as a leader in Aviation Services.
Senior Scientist - Modelling	Cape Town, South Africa	To attend a Bayesian Integrated Population Modelling Workshop which is fully funded through a research collaboration between ARI and Murray Darling Basin Authority from 17-27 October 2015.	Key outcomes from attendance at this workshop enabled the traveller to have firsthand discussion and updates with world renowned specialists in this new technical capability and making better use of expensive to collect data leading to improved advice and decision making around important species for management and conservation outcomes.
Executive Director	Singapore	To attend and present at the Annual Registrars of Title Conference in Singapore from 17-20 November 2015.	The traveller presented a paper on 'competency based career development' at the Annual Registrars of Title Conference held in Singapore. Key outcomes from attendance at this conference will be that Victoria and the department will continue to maintain awareness of the most up to date property registration practices across Australia and a number of overseas jurisdictions. Victoria's industry will be in a position to benefit from the information and personal contacts in registry management in managing our system, which is a key aspect of the state's property industry - one of its most economically and socially important industries.
Deputy Secretary, Local Infrastructure	Timor-Leste	To participate by invitation in official events in Timor-Leste marking the 40th Anniversary of the Proclamation of the Democratic Republic of Timor-Leste and the 500th anniversary	Participation in the events demonstrated Victoria's continued commitments to the close relationship between governments and allowed continuation of discussions on a range of initiatives underway within LGV in support of the

Title of officer	Countries visited	Objectives	Outcomes
		of contact between the people of Portugal and Timor-Leste.	relationship.
Executive Director, Local Infrastructure Policy and Partnerships	Timor-Leste	To participate by invitation in official events in Timor-Leste marking the 40th Anniversary of the Proclamation of the Democratic Republic of Timor-Leste and the 500th anniversary of contact between the people of Portugal and Timor-Leste.	Participation in the events demonstrated Victoria's continued commitments to the close relationship between governments and allowed continuation of discussions on a range of initiatives underway within LGV in support of the relationship.
Valuer General	Colombo, Sri Lanka	To attend 'The Commonwealth Heads of Valuation Agencies (CHOVA) Conference in Colombo, Sri Lanka from the 26 to 29 November 2015.	The CHOVA Conference is represented by 70 to 80 Commonwealth countries, states and provinces, and the program is specifically designed to suit the operational and policy needs of valuation agencies such as the Australian State Valuer-General. Key outcomes from attendance at this conference have enabled the development and implementation of policy and administration changes associated with the delivery of best practice to valuations and valuation data in Victoria.
Acting Executive Director - Climate Change	Paris, France	To represent Victoria at the United Nations Framework Convention on Climate Change 21st Conference of Parties in Paris and associated side-events.	This provided an opportunity to develop valuable relationships with and learn from sub-national jurisdictions that are leading climate change action and highlight Victoria as an attractive place to invest, with a strong commitment to action on climate change. This international collaboration informed the development of Victoria's Climate Change Framework.
Fire Equipment Development Officer, Fire and Emergency Management	Maryland, United States of America	To represent the department at the United States National Wildfire Co-ordinating Group Equipment Technology Committee Meeting in Emmitsburg, Maryland from 29 November to 15 December 2015 including visits to the US Forest Service Land Management Equipment Development Centres and Manufacturing Centres to view, discuss and share information with colleagues from the USA and also to gather knowledge and understanding of methodologies used to design, procure, test, validate, implement and maintain equipment.	Key benefits from this trip has been the opportunity to share knowledge with international peers through involvement with the US National Wildfire Co-ordinating Group Equipment Technology Committee as well as represent the Fire Development Officers' Group and establishing contact and viewing Equipment Development Projects within the US Forest Fire Service Technology Centres that will mutually benefit collaboration and contact for future project discussions and the benefit of visiting the major retardant supplier to DELWP and their equipment development work centre locations.
Manager, Strategic and International Program Development	Timor-Leste	To travel to Timor-Leste in response to an invitation from the Department of Premier and Cabinet's Office of Multicultural Affairs and Citizenship to form a joint delegation to continue discussion and development of the Victorian Government's	Key outcomes from this trip included progressing detailed development of a work placement program to support urban planning capacity, developing arrangements for a Friendship Conference in Dili in August 2016, development of a work placement application for DFAT's Fellowship Program, signing Municipal Co-operation Agreements, discussing training

Title of officer	Countries visited	Objectives	Outcomes
		capacity building work with the Government of Timor-Leste, including the specific relationship between Local Government Victoria and the Ministry of State Administration.	proposals linked to the Municipal Co-operation Agreements, and further broadening and strengthening LGV's network of colleagues in Timor-Leste.
Workplace Conciliator	Lombok, Indonesia	To attend and present at the Asia Pacific Mediation Forum from the 9 to 13 February 2016, regarding the role of the Workplace conciliator.	The traveller's attendance and participation at the conference contributed towards nurturing better cross-cultural understanding and enhancing collaborative dispute resolution processes and settlements in the Asia Pacific Region.
Manager, Aviation Services Unit	California, United States of America	To attend training with Worley Parsons and Lockheed Martin on the use of Remotely Piloted Aircraft Systems.	Key outcomes from this trip was for staff from the department, Civil Aviation Safety Authority Australia, Lockheed Martin and Worley Parsons to come together and discuss how the Lockheed Extended Range Remote Piloted Aircraft System could best support DELWP's Land Management responsibilities. The Remotely Piloted Aircraft Systems Project was a result of recommendation 3.4.7 of the Lancefield investigation to explore the use of innovative technologies such as UAV's for monitoring planned burns.
Project Manager, Remotely Piloted Aircraft Systems Project	California, United States of America	To attend training with Worley Parsons and Lockheed Martin on the use of Remotely Piloted Aircraft Systems.	Key outcomes from this trip was for staff from the department, Civil Aviation Safety Authority Australia, Lockheed Martin and Worley Parsons to come together and discuss how the Lockheed Extended Range Remote Piloted Aircraft System could best support DELWP's Land Management responsibilities. The United States of America Project was a result of recommendation 3.4.7 of the Lancefield investigation to explore the use of innovative technologies such as UAV's for monitoring planned burns.
Senior Scientist	Hong Kong	To attend and present a Scientific paper entitled "Impact of the Millennium Drought on Threatened Orchid Populations in Victoria, Australia" at the 6th International Orchid Conservation Congress in Hong Kong from 16 to 20 May 2016.	The 6th International Orchid Conservation Congress offered a unique opportunity to create contacts and exchange knowledge about all aspects of Orchid conservation research. The theme of the congress was "Bridging the Gap Between Science and Practice" and it provided an effective forum for discussing options for better translating science into practical conservation. A number of presentations provided an insight into how different nations are approaching similar threatened orchid conservation problems similar to those we face in Victoria. This favourably highlighted how well the comprehensive and extensive orchid recovery program in Victoria, led by DELWP, is progressing.
Manager - Planned Burning (Port	Florida, United States of	To attend the National Interagency Prescribed Fire Training Centre, Tallahassee,	Participation in this training provided an opportunity to understand North American Land Managers approach to planned burning, sharing

Title of officer	Countries visited	Objectives	Outcomes
Phillip Region/Metropolitan District)	America	Florida.	approaches between North America and Victoria on community engagement, burn preparation, risk assessment and management including fuel reduction and ecosystem burning. The key learnings and experiences from this trip will initiate opportunities for continuous improvement in DELWP's planned burning operations.
Manager, Strategic Bushfire Risk Assessment	California, United States of America	To attend by-invitation the Google Earth Engine Summit 2016 at the Google Global Headquarters in Mountain View, California.	The Summit provided hands-on workshops, teaching practical tools for cloud-based analysis and visualisation of environmental and satellite image data to inform decision making and provide this knowledge to communities and support complex policy decision making which align with several of DELWP's 2020 Strategic priorities. This also provided an opportunity to develop valuable relationships with specialists from other international government jurisdictions and non-profit organisations and learning of cutting edge ways that Google generate and share knowledge and foster organisational innovation.

h) Details of major promotional, public relations and marketing activities undertaken by the department to develop community awareness of the services provided by the department

Activity	Description	Cost
Landcare awareness and promotion	<p>The Victorian Landcare Program is the State Government's major investment to support Landcare efforts across the state, and is delivered by DELWP and Victoria's 10 Catchment Management Authorities.</p> <p>The Victorian Landcare and Catchment Management Magazine (published three times a year) continues to provide a statewide communication vehicle for Landcare and other community-based natural resource management groups to share stories that illustrate best practice, learning and new ideas. Content is contributed by community groups; however contributions on particular specialist areas are also sought from researchers, government and others.</p>	\$155,079

i) Details of assessment and measures undertaken to improve the occupational health and safety of employees, not otherwise detailed in the report of operations

Details of initiatives undertaken to improve the health, safety and wellbeing of employees are included in the DELWP 2015-16 Annual Report which is available at www.delwp.vic.gov.au.

j) General statement on industrial relations within the department and details of time lost through industrial accidents and disputes, which are not otherwise detailed in the report of operations

Information about industrial relations and time lost through industrial accidents and disputes is included in the DELWP 2015-16 Annual Report which is available at www.delwp.vic.gov.au.

k) List of major committees sponsored by the department, the purpose of each committee and the extent to which the purposes have been achieved

Details of major committees sponsored by the department are included in the DELWP 2015-16 Annual Report which is available at www.delwp.vic.gov.au.

l) Details of all consultancies and contractors including:

i) consultants/contractors engaged

ii) services provided

iii) expenditure committed to for each engagement.

This information is available on request, subject to the provisions of the *Freedom of Information Act 1982*, from:

Phuong Tram
Director Budget and Planning, Finance and Planning
Department of Environment, Land, Water and Planning
8 Nicholson Street
East Melbourne Victoria 3002
Telephone: (03) 9637 8886
Email: phuong.tram@delwp.vic.gov.au

Acronyms:

ARC	Australian Research Council
ARI	Arthur Rylah Institute
CSIRO	Commonwealth Science and Industrial Research Organisation
ELP	Environment and Landscape Performance
DELWP	Department of Environment, Land, Water and Planning
GGOS	Global Geodetic Observing System
RMIT	Royal Melbourne Institute of Technology
USA	United States of America
VEFMAP	Victorian Environmental Flows Monitoring and Assessment Program