

THE ROYAL SOCIETY OF VICTORIA INCORPORATED

ABN 62 145 872 663

ANNUAL REPORT FOR THE

YEAR ENDING 31st DECEMBER 2022

Council has the honour to present its report to Members upon the activities of the Society during its 167th year of operation.

Patron The Hon Linda Dessau AC

Governor of Victoria

Council

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Fellows of the Royal Society of Victoria*

1996	Jerry M. Adams	2018	Lynne Selwood
	Suzanne Cory Gustav Nossal	2019	Sandra Rees
	Graeme I. Pearman John A. Talent	2020	Pauline Ladiges Tom Beer
1999	James M. Bowler		Jennifer Graves Peter Thorne
2001	Martin R. Harris Barry O. Jones	2021	Rachel Webster William Birch
2004	Thomas A. Darragh		Nicola Williams
2005	Murray J. Littlejohn		Peter Baines
2008	David V. Boger	2022	Damein Bell Judith Downes
2010	Milton T. W. Hearn		Brendan Wintle
2017	Peter C. Doherty		Fern Hames

The Society was delighted to appoint **Professor Brendan Wintle, Ms Fern Hames PSM, Mr Damein Bell** and **Ms Judith Downes** as our 2022 Fellows in recognition of their service to the promotion of science and scientific literacy.

*please note that deceased Fellows are not listed. For the comprehensive list of RSV Fellows, please review our website: https://rsv.org.au/about-us/fellows/



From the President

Mr Rob Gell AM MRSV

This Annual Report contains detail on the programs, events and the awards programs we have delivered in 2022, looking back at the year that was, in the context of our financial performance. However, our Annual General Meeting provides me with an opportunity to report to the growing number of members of the Royal Society of Victoria on the directions your Council is endeavouring to take our organisation. The Council's role is to

provide strategic and governance oversight of our operations and finances, working very closely with our Chief Executive Officer and his small team in this regard.

At high level we are working take the Society from being a 'club' servicing members to becoming a science 'hub', looking outward not inward, taking science 'out' to the community.

Our primary expression of that objective continues to be our hallmark Inspiring Victoria program. We have been successful in obtaining very valuable funding from the Department of Education to continue this program until 2026. We sincerely thank the Minister for Education, the Hon Natalie Hutchins MP for her support in this regard.

Council is critically reviewing our Strategic Plan, understanding that we continually face new challenges that we must consider. The United Nations Environment Program now includes 'pollution and waste' as an existential crisis alongside global warming and the collapse of nature; the rise of misinformation and greenwash are important areas that we are highlighting wherever possible.

The metamorphosis of our newsletter *Science Victoria* has seen it emerge as our critical 'shopfront.' It now provides us with wider access to new audiences of interested stakeholders and will grow as our primary communications interface. Congratulations to our Editor, Scott Reddiex, for his vision and enthusiasm in taking up this role.

We wish to better utilise our heritage building, to make it more available to organisations with parallel objectives and to make it more visible to the wider community. In an effort to enhance the identity of the RSV, Council has actively engaged in discussions with professional groups on the appropriate redevelopment of the entire site. From the EPA's air quality monitoring site on the corner of Victoria and La Trobe streets, through to Exhibition Street to the west, we wish to create a new identity for the Society. We're investigating using the western wall of our building as a projection screen for scientific information; perhaps the EPA's air quality data, weather radar, science images or digital art.

We're discussing the establishment of electric vehicle charging facilities and the potential to take our 164-year-old, heritage listed, UNESCO-protected building without a lift and a downstairs bathroom to 'net zero' - 7 star? We're proposing to make our building a test case for other heritage facilities to follow and inviting technology providers to install equipment here to demonstrate what's required. Perhaps a heat pump with a geothermal ground loop for heating, cooling, and electricity; a hydrogen fuel cell; triple glazing; new insulation and utilising building monitoring technology throughout the process.

Accessibility to the Ellery Theatre and the Cudmore Library has become a significant limiting factor in making our building available to members and organisations wishing to meet. In 2023 it is essential that we are able to provide access to the entire building to all people, including those with disabilities. Prospective users of the Society's Hall are aware of this limitation, which often makes our otherwise excellent building unsuitable for a meeting or conference. Rectification of this will be difficult and expensive, and the Council is actively working to deliver this outcome. We need to develop our capacity engage with the philanthropic sector to undertake programs such as this, while valuably expanding our science programs.

We're extending our capability to engage by inviting your aligned organisation to affiliate with us. We're the only Royal Society in the country to have its own building, and we want to share it. In this way, we hope to enable a collective of science organisations to "speak with one voice"; to collaborate and present a collective view on the value and importance of good science and the need for science-based decision making at all levels of our community. We can become a collective resource and provide access to the best science.

So, if you're not yet a member, please join the Society; join your company as an Organisational Member and tell us how you'd like to use our building; who you want to meet; how you'd like to engage with our Young Scientist Research Prize winners; how you'd like to support our objectives.

May I take this opportunity to thank each member of our Royal Society of Victoria Council for their service, intellectual investment, commitment to the Society and support of me in my role. The Council group meets very regularly, both informally and formally, making a strong contribution to the renaissance of Victoria's science society. We're working well as a team, exploring new possibilities for the promotion and advancement of science in our state in parallel with refinement of our strategy and funding models, contributing to the Society's resilience and efficacy for those who succeed us.

I wish to thank two retiring Councillors, our much-valued colleagues **Associate Professor Robert Day** and **Professor David Walker**, for their long years of service and dedication to the Society and its mission.

Finally, a big thank you to our CEO Mike Flattley. Please read Mike's report to the Annual General Meeting. It describes, better than I can

here, how he and our small team deliver a wonderful range of programs and projects diligently, professionally and entirely in keeping with the objects and expectations of the Society and our members. On behalf of the Royal Society of Victoria's Council may I express our admiration, gratitude and thanks for your commitment and hard work. We are looking forward to our next year working together to deliver our objectives.

2021 Annual General Meeting

The 165th Annual General Meeting was convened on 26th May, 2022.

Dr Jane Canestra was inducted for a two-year term as Ordinary Member of Council at the AGM.

The Annual Report and Financial Statements for 2021 were received and adopted.

Acknowledgements

The Society's thanks and appreciation are due to the organisations that contributed their valuable partnership and assistance to the Society's projects and aims during the year, notably:

- Science into Action
- Scientell
- Green Scribble
- Miscible

The Council wishes to acknowledge with gratitude the continued maintenance of our grounds, made publicly accessible by the Society as part of the City of Melbourne's open space program.

Administration

Mr Mike Flattley, Chief Executive Officer

Mr James McArthur, Business and Facilities Manager

This Report is approved by Council for presentation to Members at the 2022 Annual General Meeting to be conducted Thursday 18th May, 2023.

- Mr Rob Gell AM, President



From the CEO

Mr Mike Flattley

2022 was a truly challenging year for the Society, and without doubt one of the most difficult of my working life. Matching our ambitions with our capacities is always a fraught balancing act, but our increasingly dire financial position was hardly a tonic. In the third year of the pandemic, following many years of writing proposals, running pilots, delivering outreach programs, sustaining vibrant partnerships, acquitting grants, offering new

services to new clients and lobbying, lobbying, lobbying – in short, trying everything we could think of to reposition our membership organisation for an effectual and financially sustainable future – it appeared we had exhausted all options. These are indeed hard times for many small businesses and not-for-profit organisations alike, as the Society's financial result for 2022 will attest.

So, it was an incredible moment to gain the commitment of the Victorian Government to provide funding support for the Inspiring Victoria program late in 2022. The strength of our program delivery in the preceding four years demonstrated that a total investment of \$1.3M by this partnership initiative had returned a benefit of \$14.7M by the most conservative of measures, representing a 1063% return on investment in this vibrant community science engagement program. We had backed ourselves in 2017, and in 2022 all our hard work had finally paid off. The relief is immense.

For helping us cut through the white noise of the 2022 Victorian State Election, we must thank Dr Tien Kieu MRSV for advocating on our behalf as the outgoing Co-Chair of the From left: Mr Mike Flattley, Dr Tien Kieu MP, Victorian Parliamentarians for STEM, and of course the Hon



Natalie Hutchins MP, Victoria's new Minister for Education, for recognising the value in what we deliver to make a funding commitment of \$200k per annum from 2023 to 2026 on behalf of the Victorian Government. This will cover the Society's staffing requirements for this statewide, grassroots community science outreach program, and establish our financial sustainability as we continue to refine and rebuild our business model.

In 2022 we completed the fifth year of delivering National Science Week and the Inspiring Victoria program across the state. Encouragingly, we are seeing statewide participation numbers bouncing back to pre-pandemic levels due to the outstanding efforts of community science advocates everywhere, with particular acknowledgement of our partners Neighbourhood Houses Victoria and Public Libraries Victoria for their networks' continued engagement and participation.



With the call on physical meeting facilities remaining marginal, and our venue hire and event management business continuing at a low ebb, we continue to deliver our core programs under constrained circumstances. Our dedicated Caretaker, Business & Membership Manager, Mr James McArthur, and yours truly represented the Society's entire staffing profile in 2022. My thanks to the resilient James for hanging in there through a tough year of high workloads.

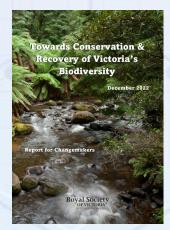
Resource constraint does not necessarily equate to reduced impact; there are always new and better ways to reach audiences with scientific content, whether the goal is to simply raise awareness or advocate for purposeful change.

In commissioning the excellent work of Dr Catriona Nguyen-Robertson MRSV and Mr Scott Reddiex MRSV, we intensified our focus on science communication through continued development of the Society's monthly magazine, Science Victoria, as an output of the Inspiring Victoria program. The magazine continues to grow from strength to strength as a





valuable 'Open Science' initiative, engaging readers across many sectors in the work of Victoria's scientists, with articles, events, news and notices to help keep us all connected to Victoria's science community. My gratitude to all who have contributed articles, letters and general advocacy to the effort!



Following consultation on priorities with our membership, we embarked on a year-long program to consult across four sectors – community, industry, government and academia – to compile a comprehensive situational analysis and position paper titled *Towards Conservation and Recovery of*



Victoria's Biodiversity, released in December 2022 following the Victorian State Election. We also addressed emerging technologies for the humane control of invasive species, convening an excellent symposium titled Next-Generation Biocontrol of Invasive Vertebrate Pests on 16 September to share scientific intelligence with an outstanding collective of program partners.

Our capacities remain small while our ambitions continue to grow; with the comfort of a financially sustainable program to work from, I look forward to our activities regaining strength and rebuilding our momentum in the years ahead. My thanks to our hardworking Councillors and Committee members, particularly our resolute and energetic President, and all RSV members, partners and collaborators for your continued support of the Society and its mission through these proving times.

Mike Flattley, CEO

Science Program

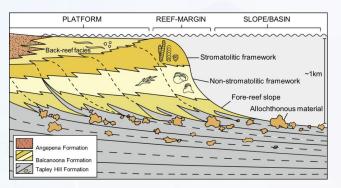
Research Medal

Following assessment of the excellent submissions received, the panel was pleased to recommend to Council that **Professor Rachelle Buchbinder AO** be awarded the Royal Society of Victoria's Medal for Excellence in Scientific Research in **Category II: Biomedical & Health Sciences**. In the Medal's 63rd year, the presentation to Professor Buchbinder was made by RSV Fellow and Nobel Laureate **Professor Peter Doherty AC** (pictured right with Professor Buchbinder). Our Medallist presented her work to the Society in a lecture titled "Optimising Healthcare for People with Musculoskeletal Conditions."



The Phillip Law Postdoctoral Award

The award (\$3000), for postdoctoral candidates within the first seven years of the conferring of their PhD, is made possible by the generous bequest of Dr Phillip Garth Law, a former President of the Society and Director of the Australian Antarctic Division. In 2021, the Society broadened the Award from a sole focus on the physical sciences to take in the same four categories as our Research Medal and the Young Scientist Research Prizes, thereby



Above right: A schematic diagram of a carbonate platform of the Oodnaminta Reef Complex (Flinders Ranges), showing reef facies distribution. From van Smeerdijk Hood, A., & Wallace, M. W. (2012). Synsedimentary diagenesis in a Cryogenian reef complex: Ubiquitous marine dolomite precipitation. Sedimentary Geology, 255-256, 56–71. https://doi.org/10.1016/J.SEDGEO.2012.02.004

"filling the gap" between PhD completion and peak research career achievements across the sciences.

In 2022 we moved to Category III: Earth Sciences, with eligible submissions assessed by an eminent panel comprising Emeritus Professor Andrew Gleadow, Professor Peter Betts, Dr Bill Birch AM and Mr Rob Gell AM, to whom we are most grateful.

2022's winner was Dr **Ashleigh Hood** (pictured right: Senior Lecturer, School of Earth and Atmospheric Sciences, The University of Melbourne), who delivered an excellent presentation to us titled "Reefs, Revolutions and Redox at the Dawn of Animal Life."



The Young Scientist Research Prizes



2022 Young Scientist Research Prize Finalists, from left: Linda Riquelme, Aung Zaw Zaw Phyo, Pui Kwan Cheung, Michelle Xu, Mahshid Sadeghpour, Daniel Urrutia Cabrera, Hoseong Lim, Yongqiang Wang.

Usually held mid-year, our annual YSRP competition was delayed until 10th November to enable RSV staff to deliver symposia and National Science Week in August. Open to students in the final year of their PhD candidature, in 2022 there were 69 entries across all four categories: Biological Sciences (non-human); Physical Sciences, Earth Sciences and Biomedical & Health Sciences, representing a vigorous return to pre-pandemic participation levels.

We are most grateful to our colleagues with requisite disciplinary expertise who variously acted as assessors for the short list and joined the judging panel on the night of the final. It was a delight to return to an in-person presentation in 2022, capturing the excitement of a live event for the competition! All



RSV Judges on the night of the Young Scientist Research Prizes, from rear left: A/Professor Rob Day, Mr Richard Blundell, Mr Siddharth Verma. Front left: Dr Jane Canestra, Professor David Walker, Mr Rob Gell AM

finalists were each presented with two years' membership of the RSV and a prize certificate by our President, Mr Rob Gell. The first prize winners received prize money of \$1,000, with second prize winners each receiving \$500.

Finalists:

Biological Sciences



First Prize: Michelle Xu, STEM College, RMIT University

Protective cultures as natural antimicrobials for fresh meat shelf-life extension: their application and consumer acceptance

Second Prize: Linda Riquelme, School of

Ecosystem and Forest Sciences, The University of Melbourne



Measuring grass from space: estimating understorey biomass using remote sensing in semi-arid woodlands of south-eastern Australia

Biomedical and Health Sciences



First Prize: Daniel Urrutia Cabrera, Faculty of Medicine, Dentistry and Health Sciences, The University of Melbourne

Using Cellular Reprogramming and CRISPR Technologies to Regenerate the Retina and Treat Vision Loss

Second Prize: Aung Zaw Zaw Phyo, School of Public Health and Preventive Medicine, **Monash University**



Health-Related Quality of Life in Later Life: Predictors, Trajectories, and Health Outcomes

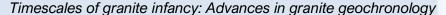
Farth Sciences



First Prize: Pui Kwan Cheung, School of Ecosystem and Forest Sciences, The University of Melbourne

Measuring the micro-climactic impacts of turf irrigation in a temperate summer season

Second Prize: Hoseong Lim, School of Earth, Atmosphere & Environment, Monash University





Physical Sciences



First Prize: Mahshid Sadeghpour, School of Mathematical Sciences, College of STEM, RMIT University

Developing a Privacy-preserving Retinal Biometric Recognition System

Second Prize: Yongqiang Wang, School of Chemical and Biomedical Engineering, The University of Melbourne

Solar-driven CO2 capture and production from the air



Warmest congratulations to all our finalists, and our thanks once again to the Committee members, assessors and judges for their efforts and input in support of the 2022 competition.

2022 Lecture Series

Our public lectures are formally termed the "Ordinary Meetings" of the RSV's broad membership - all are welcome.

With restrictions on gatherings gradually lifting in the third year of the COVID-19 pandemic, we returned to hosting lectures in person (with our new air filters working overtime!), combined with live-streaming to reach and involve online audiences via Zoom webinar and YouTube. These 'hybrid' formats are expensive to conduct and, with fewer staff members on board to manage the Society's broad functions, we delivered a much-reduced program in 2022 to constrain costs. Regardless, we enjoyed an excellent line-up of speakers and topics across the year, professionally filmed and delivered to audiences through the welcome support of the Inspiring Victoria program.

"Ordinary Meetings" of the Royal Society of Victoria



24 March: Earthquakes, Pandemics and the Communication of Science



Dr **Shane Huntington** OAM, Broadcaster, Science Communicator, Strategic Advisor



23 June: Australian Caves: Diversity, Wonder and Risk



Professor **John Webb**, Professor of Environmental Geoscience, La Trobe University



7 July: Creating a World Leading Manufacturing Sector in Victoria



Professor Bronwyn Fox, Chief Scientist, CSIRO



1 December: Reefs, Revolutions & Redox at the Dawn of Animal Life



Dr **Ashleigh Hood**, Senior Lecturer, School of Geography, Earth & Atmospheric Sciences, The University of Melbourne



8 December: Optimising Healthcare for People with Musculoskeletal Conditions



Professor **Rachelle Buchbinder** AO, School of Public Health & Preventive Medicine, Monash University

Joint Presentations

Fascinating joint lectures included our enduring collaboration with the **Australian Academy of Technology and Engineering**, this year hearing from CSIRO's new Chief Scientist Professor **Bronwyn Fox** on building a new manufacturing sector in Victoria, drawing on the significant advances made in automation technology and techniques by Australia's vigorous mining sector. The annual Howitt Lecture with the **Geological Society of Australia Inc (Victoria Division)** featured the work of Professor **John Webb** (La Trobe University) on Australian cave systems as a part of the global program for the International Year of Caves and Karst.

Membership, Fellowship, Policy & Advocacy

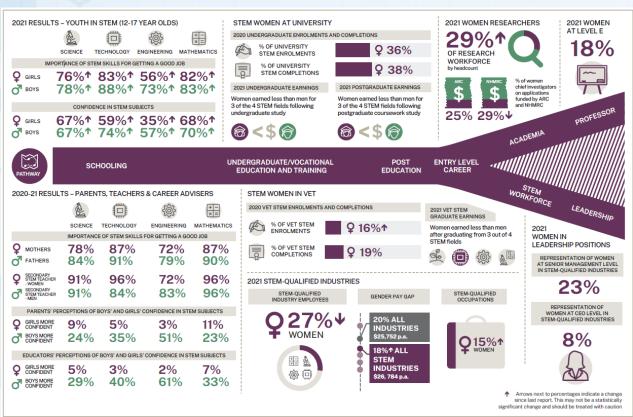
Following the setbacks of 2020, it is pleasing to report our metrics have rallied to 2019 levels, both in total numbers of members and percentages in both gender and cultural diversity.

Our numbers at the end of the year were marginally improved to 590 members, up from a low point of 509 in 2020. Our average age is steady at 59 years. Our gender ratio in membership

overwhelmingly remains a male representation, forever hovering about the 70% mark as a proportion of our members. The particularly encouraging sign of change is in those members identifying as being from a Cultural And Linguistically Diverse (CALD) background, which consolidates gains made over 2020-21 to remain steady at 10% of our total membership in 2022.

Changes to Membership	2014	2015	2016	2017	2018	2019	2020	2021	2022
Total Members	604	561	587	639	742	588	509	525	590
Gender Ratio (Women/non-binary: Men)			30:70	33:67	34:66	30:70	28:72	30:70	29:71
Average Age (years)			57.1	57	54.4	59	61	59	59
Culturally and Linguistically Diverse Background (%)						5.95	8.51	10.1	10.0

We seek to improve these participatory rates. In 2020, we committed to building a more diverse membership by continuing to demonstrate visible diversity within our leadership, speakers, membership, staff and outreach programs, a more active recruitment of members on a diversity basis, and through identifying other relevance factors that are yet to be satisfied for the broader scientific community.



As always, for context, we reference the Australian Government's <u>2022 STEM Equity Monitor</u> report (infographic above), which reveals that both girls and boys in secondary schooling overwhelmingly rate the attainment of STEM skills highly in regard to securing "good" future work, and this is pleasingly on the rise, as are confidence levels. Yet women still represent only 38% of undergraduate STEM course completions, earned less than men in STEM fields following postgraduate coursework, with the gender pay gap increasing. Women now comprise only 29% of the research workforce (those applying for grants as chief investigators through the NHMRC and ARC), a slight increase on the 2021 report. Women in leadership positions comprise 18% at professorial level E (no change), 23% of senior management in STEM industries (no change) and only 8% at the CEO or equivalent levels of same (a drop of 3%).

The public research sector is essentially a static workforce. There is intense competition over a small pool of postdoctoral academic positions across the sector, coupled with sustained uncertainty

over tenure and economic security, which brings renewed focus to postdoctoral destinations in industry and government roles in particular. With certain exceptions, these sectors are still relatively new to this particular workforce, and we continue to seek cross-sector integration of research talent, and conditions more favourable to sustaining and promoting women through the disproportionate career disruptions associated with primary care and family responsibilities in particular. The disproportionate impact on the careers of women from the COVID-19 pandemic has been well publicised.

Broadening our Scope

The RSV has traditionally (but not exclusively) drawn its membership from the academic sector, with a more remote relationship to community, industry and government agencies; incorporating these three other sectors into our Fellowship model is favourable to meeting many of the Society's strategic goals and, importantly, opens our organisational culture to professions and organisations with a more balanced gender base. Other non-government organisations, allied health, primary and secondary teaching, the public service and consultancy services are among these.

To this end, the Society's Council restructured its Fellowship model over the course of 2021, informed the appointment of Fellows in 2022.

A College for Science and Society

Fellowship Program – Sectors, Domains and Gender*											
		Sectors									
		Acad	demia 🗎	Gover	nment	Indi	ustry	Community			
		Men	Women	Men	Women	Men	Women	Men	Women		
	Geosciences										
	Ecology & Biodiversity										
	STEM Education & Communication										
	Food Systems & Agricultural Science										
	Advanced Materials & Manufacturing										
Domains	Energy & Primary Resources										
Don	Water, Oceans & Atmosphere										
	Human Health & Medicine										
	Technology & Engineering										
	Cultural Knowledge & Practice										
	Demography & Planning										
	Cosmology & Astrophysics										
	*We are aiming for gende	r parity het	ween women	and men, he	ence the rese	ryations as i	ndicated				

Recently, the appointment of Fellows of the RSV has been something of an award for a "job well done," whether in scientific careers or as a long-standing Member and leader of the Society. Acknowledging that we must maintain acknowledgement of career achievements in our merit criteria, we now seek to appoint our Fellows at "mid-career" phase; people actively pursuing their professional goals and seeking to make a change in the world through effective knowledge leadership.

Colleagues with a non-binary or otherwise diverse gender identity may be elected to any Fellowship position.

Our Fellows are now explicitly appointed as a "brains trust" for the Society and its Members across the disciplines, to be called upon to provide expertise, speak for the Society on matters requiring extensive command of disciplinary or sectoral complexity, and champion the Society's mission within their networks.

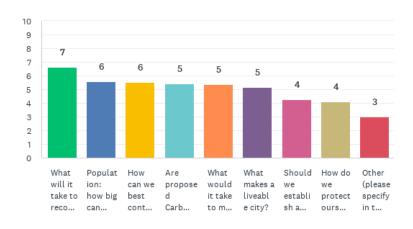
Our focus is on the intersection of science and society, with an aim to translate disciplinary expertise into effective actions within each social sector through an interdisciplinary process of knowledge transfer – a "feedback loop" between scholars, public servants, private sector experts and community-based knowledge holders that builds and distributes new knowledge.

Accordingly, we have set out a new structure to populate our new College with excellent individuals, drawing on knowledge leadership across the sectors of Academia, Government, Industry and Community. We are aiming for parity in gender representation.

Forums & Symposia

This revitalised program seeks to establish a growing and enduring corpus of effective, influential, future-focused thought leaders to help our broader membership appreciate the progress made in diverse fields of endeavour, test ideas with experts and participate in deliberative forums informed by robust research and activated through effective networks for impact. More than a traditional symposium typically concerned with showcasing research, this science-based process of interrogating an evidence base to help resolve issues confronting all sectors of society, with the involvement of sectoral representatives, offers relevance for involvement from members drawn from all sectors and, ideally, a platform for generating cross-sector collaboration drawing on a foundation of scientific work.

Q1 What question should the RSV address first? Please rank in order of priority.



After convening a members' Focus Group to identify priority themes to address, we polled our membership in late 2021 to determine our first Forum in 2022, with "Biodiversity Conservation and Recovery" emerging as the top priority, followed in equal second place by understanding the "carrying capacity" of Victoria in supporting a growing population, and methods to control the spread and damage caused by invasive species in our state.

Our first Fellows under the new model were appointed towards guiding us on the lead priority.

Cross-Sector Forum on Biodiversity Conservation & Recovery

Advocates from across Victoria, including Traditional Owners, gathered at the Royal Society of Victoria on Saturday, 4th June 2022 to discuss the challenges and opportunities for Victoria in biodiversity conservation and recovery, considering the urgent need to establish an independent Taskforce.

The Cross-Sector Forum on Biodiversity Conservation & Recovery heard from:



- Uncle Dave Wandin, Wurundjeri Woi Wurrung Traditional Owners Corporation
- Mr Rob Gell AM, President, The Royal Society of Victoria
- Mr Damein Bell FRSV, Atlantic Fellow for Social Equity, The University of Melbourne
- Ms Fern Hames PSM FRSV, Director, Arthur Rylah Institute for Environmental Research
- Professor Brendan Wintle FRSV, Director, Threatened Species Recovery Hub
- Ms Judith Downes FRSV, Chair, Bank Australia



2022 RSV Fellows, from left: Mr Damein Bell FRSV, Ms Judith Downes FRSV, Professor Brendan Wintle FRSV, Ms Fern Hames FRSV

We learned:

- There are more than 5,000 plants and 1,200 vertebrate animals native to Victoria. More than a third of these species are classified as rare, threatened or near-threatened. Threats to Victoria's biodiversity include habitat loss, weeds, pest animals and changed fire and water regimes all of which are exacerbated by the unfolding effects of climate change.
- Addressing biodiversity loss is affordable. The cost of stopping species loss and recovering nationally listed threatened species is estimated to be about \$1.7 billion per year. Each year Australians spend 18 times that amount, about \$30.7 billion, just on cats and dogs.
- Traditional Owners, having lived with Country and managed the environment for tens of thousands of years, have a fundamental role to play. There are opportunities to create partnerships between First Peoples, local community groups, primary industries, landowners and others to revive the health of Country, its plants and animals, and its people.

Guiding Principles for the proposed Taskforce developed by the RSV were to:

- Prioritize First Peoples as land and water managers.
- Use science and research to guide actions.
- Include measurable biodiversity conservation or recovery outcomes from actions.
- Work across biologically relevant geographic scales.
- Collaborate with local communities.
- Work across participant scales, from large organisations taking on broad goals to individuals working locally.
- Connect sectors, disciplines, data, expertise, knowledge systems and actions.
- Demonstrate the value of corporate leadership.
- Build the business case value of biodiversity conservation.
- Develop models for private and public investments in biodiversity.

While the service provided—setting out the status quo with rationales for action and procedural guidance for decision makers engaging with the consequent report to effect change—was valuable, this pilot exercise proved exceedingly work-intensive and expensive for a small organisation to deliver; we are reviewing our efforts in line with our model to determine the best balance of ambition with organisational capacities for our next endeavour.

Next Generation Biocontrols of Invasive Vertebrate Pests

Invasive species are not constrained to environmental problem. They also cause immense economic and cultural damage. Since the 1960s, Australia has variously spent and incurred losses amounting to \$390 billion due to invasive species. The problem only continues to grow, compounded by the impacts of land development, climate change and other human-driven impacts on native plants and animals, and we now face the challenge of containing the damage. Thankfully, there are many researchers and organisations who are working towards humane solutions.

On 16 September, 2022 the Society held a one-day symposium on next-generation biocontrol of invasive vertebrate pests. Speakers included: Andrew Cox (Invasive Species Council), Professor Euan Ritchie (Deakin University), Gerald Leach (Victorian Farmers Federation), Chelsea Cooke (Warreen Beek Trainee Rangers Program, Shalan Scholfield (Department of Agriculture, Fisheries & Forestry), Dr Andreas Galnznig (Centre for Invasive Species Solutions), Dr Ellen Cottingham (University of Melbourne), Dr Tanja Strive (CSIRO), Professor Paul Thomas (University of Adelaide), Dr Chandran Pfiztner (Macquarie University), Dr Agus Sunarto (CSIRO), Dr Stephen Frankenberg (University of Melbourne), Professor Dan Tompkins (Predator Free 2050), Professor Ben Phillips (University of Melbourne), James Trezise (Invasive Species Council) and Rita Hawkes (RSPCA).



Mr Gerald Leach, Chair of the Environment, Planning & Climate Change Committee for the Victorian Farmers Federation, presenting to the Royal Society of Victoria on the "On Farm Costs of Invasives."



Dr Ellen Cottingham, a Postdoctoral Research Fellow with the University of Melbourne has developed an innovative approach to feral cat management: immunocontraception, using a cat's own immune system to induce a contraceptive effect. This does not lead to the death or suffering of animals; rather, it prevents an excessive number from being born in the first place.

The control of invasive species is an emotive and divisive issue in our nation, fraught with ethical conundrums, cultural dissonance disagreement on research methodologies. The aim of the symposium was not to establish an institutional position, but to showcase, understand and socialise the range of new technologies that are "in the pipeline" for consideration by land managers. In considering the question of "social license," it was emphasised how important it is that these technologies – which may take up to 20 years to develop usefully and safely - are kept in the public eye so they are thoroughly understood and supported within our culture when ready to be deployed. Papers are currently with our Editor in Chief for inclusion in a forthcoming edition of the *Proceedings*.

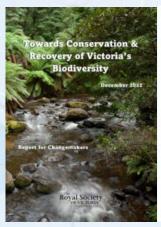
The symposium was delivered with the support and partnership of the Invasive Species Council, DELWP, The Centre for Invasive Species Solutions, Zoos Victoria, the Victorian National Parks Association and Rabbit-Free Australia. Particular thanks are extended to RSV Councillor **Professor David Walker** (RMIT University) and our talented colleagues **Dr Stephen Frankenberg** and **Dr Ellen Cottingham** (University of Melbourne) for their drive and commitment to delivering a most

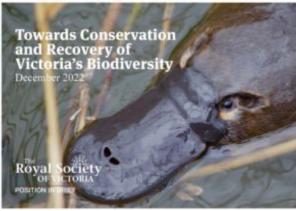
valuable forum for a diverse audience of Australian land managers, policy makers and scientists.

Position Papers

Towards Conservation and Recovery of Victoria's Biodiversity

Following the June Forum, we embarked on further research and consultation with our 2022 Fellows and members of the RSV's Future Focus Committee to produce a comprehensive "Report for Changemakers," a suite of documents that ranged from a 37-page report and position paper, a 6-page "position in brief" and a 1-page "at a glance" summary of the Society's position and recommendations for immediate action.







The Society released its paper in the week following the Victorian State Election to inform the new Andrews Government's "first 100 days" in office. Lobbying continues.

Official Position on Climate Change

The Society's position on Climate Change was updated following the 2021 release of the IPCC's 6th Assessment Report. Given Australian expertise in atmospheric and oceanographic science is best represented by the Australian Meteorological and

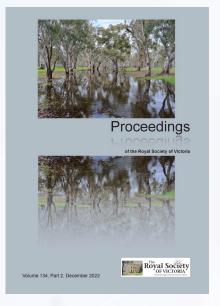


Oceanographic Society (AMOS), the RSV endorsed and adopted the AMOS position, which followed an exhaustive process of scientific consultation and consensus building by members.

Publications, Records & Collections Proceedings of the Royal Society of Victoria

We continue to offer a free-to-publish, open access journal with a scientific publishing legacy stretching back to the 1850s. With all members and the general and scientific community able to download all volumes and individual papers, we are now printing only a handful of hard copies at the end of the year to inform our own collection. We extend thanks to our Editor in Chief, Dr Bill Birch AM, and our copy editor, Barbara Vaughan, for their excellent work on the journal, and to Scott Reddiex and Dr Gavin Smith for their support of the Editorial Committee.

The second part of Volume 133 and the first part of Volume 134 of the *Proceedings of the Royal Society of Victoria* was published online with **CSIRO Publishing**, with five papers published across 2022 as follows:

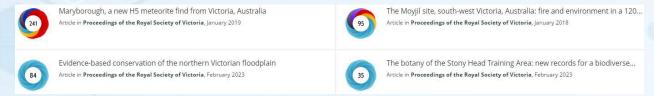


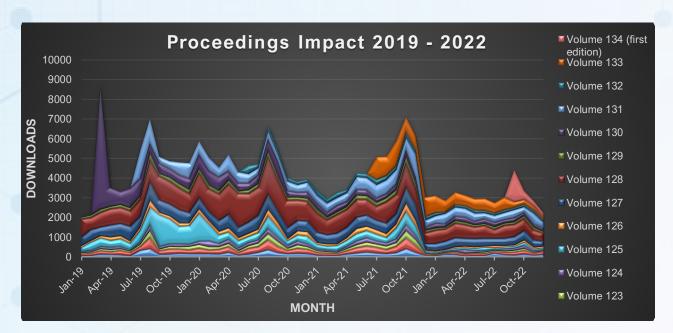
- <u>Late Oligocene brachiopod fauna from the rocky shore deposit at Cosy Dell farm, Southland,</u> <u>New Zealand</u> - Jeffrey H. Robinson
- Pioneering of numerical weather prediction in Australia: Dick Jenssen, Uwe Radok and CSIRAC William Bourke
- Wind climate of the Melbourne metropolitan area J. D. Holmes
- George Ulrich's contributions in German on Victorian geology, mining and mineralogy (1859–1864) Thomas A. Darragh
- <u>Something went missing: cessation of Traditional Owner land management and rapid mammalian population collapses in the semi-arid region of the Murray–Darling Basin, southeastern Australia Ian M. Mansergh, David C. Cheal, John W. Burch and Harry R Allen</u>

Impact

CSIRO Publishing captures the Altmetric score of journal content, which is a weighted count of all of the mentions Altmetric has tracked for an individual research output and is designed as an indicator of the amount and reach of the attention an item has received.

As of 2023, papers with the all-time highest Altmetric values are as follows:





Science Victoria

With the steady improvement in the quality and scope of our monthly news distribution, we are no longer publishing a newsletter, but a magazine. In a sense this is continuing one of the Society's founding traditions of publishing "Transactions," being the abstracts from science lectures and informative articles, except in this case we have embarked on a more journalistic approach to aid broad community and cross-sector engagement with our content.

2022 marked the appointment of Mr **Scott Reddiex** MRSV as the publications Editor, and Scott has taken magazine's content to another level over the course of the year, leading the RSV's publications team to produce 11 high-quality editions from February to December.





Even for a free publication, building a mailing list of subscribers is a hard road and maintaining it is even harder – individual email inboxes are commonly bursting at the seams with newsletters, promotional material, scams and obscure updates, and the "unsubscribe" link is only ever a click away, so we work hard to keep our language and content relevant and engaging for our readership, while seeking to grow the mailing list through sign-up forms and event registration processes.

We publish the magazine online, posting the PDF to LinkedIn and distributing to email subscribers using Mailchimp. The mailing list's engagement over time is measured in the graph that follows.



Archives

With the easing of pandemic restrictions, the organisation and archiving of the RSV's historical records with the State Library of Victoria was resumed in 2022 through the labours of Dr Douglas McCann MRSV and Mr Lawrie Hanson MRSV, to whom we record our grateful thanks.

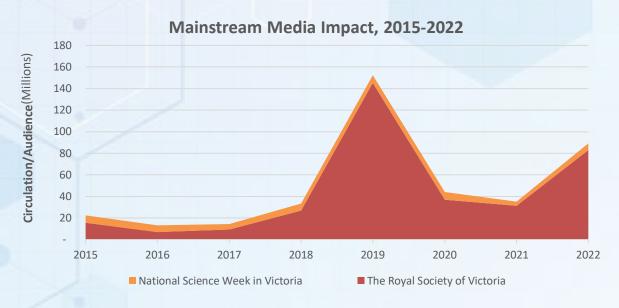
Publicity, Media & Public Relations

We measure our audience size and engagement through media channels to help gauge the 'impact' of our efforts to promote the sciences and the translation of scientific work into a pervasive social knowledge base. Both traditional 'print' media and new social media channels offer opportunities

for quantifying impact. Overall, the pandemic has plainly affected the RSV's performance in this key area of community science engagement during the course of 2020.

Traditional & Digital Media

In terms of our core activities and mission, RSV media mentions were generated through publicity for the **Inspiring Victoria** and **National Science Week programs**. However, the global impact of the RSV continued thanks to the interest garnered in recent editions of the *Proceedings of the Royal Society of Victoria*, in particular the enduring international interest in the **Moyjil** site at Warrnambool and the **Maryborough meteorite**.



Drawing on 2022 circulation metrics published by each media outlet and ethnic population data published by the ABS, we are able to estimate the impact of traditional journalism concerned with the Royal Society of Victoria.

ROYAL SOCIETY OF VICTORIA MEDIA COVERAGE 2022

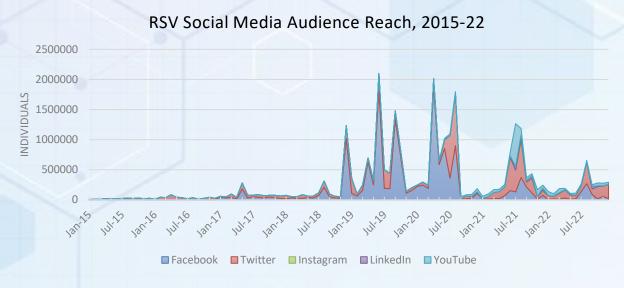
Outlet	Link	Dates	Audience Reach/ Circulation
Newsbreak	https://original.newsbreak.com/@fareeha-arshad-1587440/2566537751501-the-rock-that-proved-to-be-far-more-precious-than-gold-the-4-6-billion-year-old-meteorite	8 April, 2022	50,000,000
Research Professional News	https://www.researchprofessionalnews.com/rr-news-australia-politics-2022-6-royal-society-of-victoria-to-launch-biodiversity-taskforce/	15 June, 2022	280,000
The Conversation	https://theconversation.com/establishing-a-voice-to-parliament-could-be-an-opportunity-for-indigenous-nation-building-heres-what-that-means-187534	4 August, 2022	4,800,000
Yahoo News	https://au.news.yahoo.com/establishing-voice-parliament-could-opportunity-041116305.html	4 August, 2022	14,300,000
Campus Morning Mail	https://campusmorningmail.com.au/news/appointments-achievements-499/	24 October, 2022	115,000
Phys.Org	https://phys.org/news/2022-12-recovery-victoria-biodiversity.html	6 December, 2022	10,000,000
Xinhua News Agency	https://english.news.cn/20221207/e3b480928aa64235a9be344386aff436/c.html	7 December, 2022	900,000

Social Media

The opportunity to self-publish content for a global audience at a low cost has historically been a boon for not-for-profit organisations; as of January 2022, 79.9% of the Australian population over

13 years of age held active social media accounts. While down from 85% in 2020,¹ this nonetheless represents effective market saturation. So, while we must participate to maintain visibility and relevance, it is incumbent upon the RSV to understand how each platform is influenced by current affairs and the vicissitudes of platform ownership in investing in our subscriber base.

The charts that follow tell something of the story:



The chart above represents the number of individuals to whom an RSV news item or video presentation was delivered over the course of the last six years. Our earlier investment in growing our Facebook subscription base gave us an excellent return in audience reach in 2019 and 2020 but has since stalled; Twitter remains our solid performer despite the ownership and management dramas of the year, and YouTube is emerging as a new platform for the Society, although the smaller number of RSV events held in 2022 resulted in less content for this channel.

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RSV Social Media & Electronic Direct Mail Subscribers by Channel, 2015-22

The chart above represents growth in the RSV's subscriptions, or **active followers** of our social media feeds over the course of the same period. Our followers are the main source of impact for our stories and news items, as these are people who "like" or "share" our content to a broader network of friends, family and colleagues. The trend over seven years from just over 100 total subscribers to just short of 60,000 at the end of 2022 reflects a recent, concerted effort to secure wider audiences in support of National Science Week and the Inspiring Victoria program.

LinkedIn

YouTube

Instagram

■Twitter

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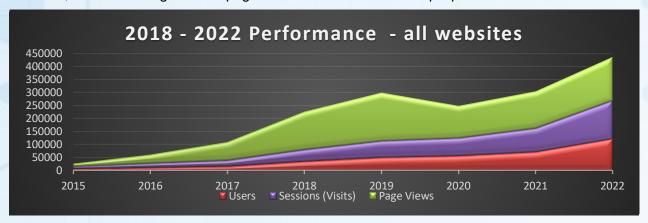
¹ https://www.genroe.com/blog/social-media-statistics-australia/13492

While we continue to share content on the platform, we are no longer investing time or resources in developing our **Facebook** subscription base (18,000,000 Australian users as of December 2022), which is tapering off as a result. We are focusing our efforts on **Twitter** (5,800,000 Australian users), **YouTube** (17,500,000 Australian visitors) and **LinkedIn** (6,500,000 Australian users).² Given the turbulent nature of Twitter, we have also started a **Mastodon** account as an alternative platform.

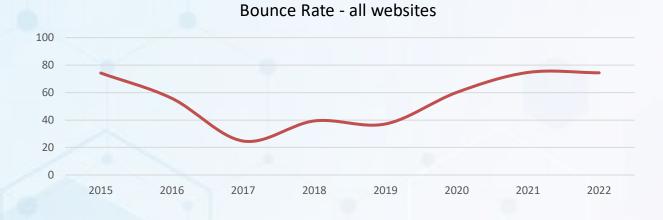
RSV Website

We've been tracking our website usage data through Google Analytics for some years now. Generally our website has been an "online brochure" to inform others of our history, role and purpose, but has also been a platform to showcase upcoming lectures and events and, increasingly, post articles reviewing and reflecting on these – a modern channel for what has traditionally been referred to as our "Transactions," and now a quick-access repository for articles gathered for publication in *Science Victoria*.

Our investment in capturing and editing professional video footage of our lectures, along with interview material featuring our speakers, has created high-quality material for sharing online with members and supporters. The graph below shows the steady growth in audience engagement with our website's content up to 2022, when we welcomed over 120,770 users to our websites – however, it's concerning that our page views have been lower in proportion.



The graph below shows the "bounce rate," or the number of visitors who viewed only one page on our website without noticing or showing interest in any other content. Essentially, a low bounce rate is "good." Given our data reveals that users visit our site for many different reasons, it appears the design and "flow" of our websites is not attracting the further interest of our readers as it should; we have committed to the review and redesign of our websites as a part of the Inspiring Victoria program from 2023.



² https://www.socialmedianews.com.au/social-media-statistics-australia-december-2022/

Outreach & Partnerships

Inspiring Victoria

Victoria
2022 was the Society's fifth year as the managing organisation for the Inspiring
Victoria program, a state-wide science engagement program co-funded by the Royal Society of Victoria and the Commonwealth Department of Industry, Science, Energy and Resources.

Inspiring

In 2022 the **Inspiring Victoria Partnership Board** was Chaired by Victoria's Commissioner for Environmental Sustainability, **Dr Gillian Sparkes AM**, with senior members from the RSV, Questacon, Museums Victoria, Royal Botanic Gardens Victoria, Public Libraries Victoria, Neighbourhood Houses Victoria and the Arthur Rylah Institute for Environmental Research. The Board directly governed and delivered our major community engagement initiatives concerned with regional community STEM engagement and the delivery of National Science Week.

National Science Week - Victoria

The Main Event: RARE.



Following two years of lockdowns during National Science Week, we aimed for the centre with this year's program, offering a mix of online and in-person elements for National Science Week's major event in Victoria. Featuring scientists from Victoria's major public scientific and cultural institutions with a strong broadcast focus for our regional audiences, we revealed the innate value of the unique and unusual in nature and sought engagement with the **RARE**. We combed the universe for unusual astronomical and cosmological events, one of which turned out to be the remarkable plants and animals with whom we share our home. RARE was a series of live audience and broadcast events presented in collaboration with Museums Victoria, Royal Botanical Gardens Victoria, Zoos Victoria, the Parliament of Victoria, and the Royal Society of Victoria for National Science Week.



A panel discussion broadcast by the Parliament of Victoria during National Science Week 2022. Joining the Parliament's Bill Bainbridge (centre), from left: John Arnott, Manager of Horticulture at Royal Botanic Gardens Victoria; Dr Megan Hirst, Post-Doctoral Fellow at Royal Botanic Gardens Victoria; Dr Joanna Sumner, Manager of Genetic Resources at Museums Victoria; Dr Marissa Parrott, Reproductive

Program Highlights

The series commenced with a wonderful evening at Scienceworks, flying across the cosmos at the Melbourne Planetarium. We were guided by astronomer and curator Dr Tanya Hill, presenting her first live show since 2020 when the pandemic began. Museums Victoria continued the push throughout August with the Planetarium Nights program, the Science on Show exhibit of rarely seen pieces from their collection of 17 million objects, and a public lecture on new and emerging technologies that combine palaeontology, macro-ecology, computed tomography, taxonomy and genetics to discover the secrets of rare species.

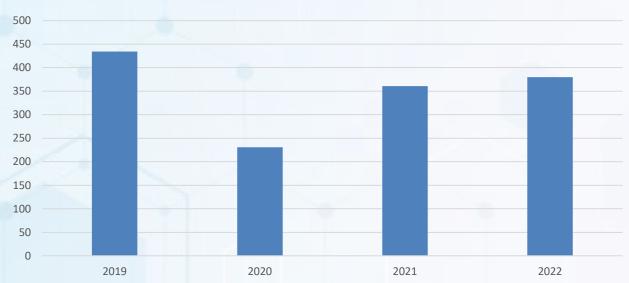


Program partners, grantees, stakeholders and families involved in delivering the Inspiring Australia program gathered to celebrate the launch of National Science Week at the Melbourne Planetarium for a specially-curated 'Ticket to the Universe' show by astronomer Dr Tanya Hill.

The main program wrapped up with a livestreamed forum titled Caring for the Rare, co-hosted by the Parliament of Victoria and featuring scholars from Museums Victoria, Zoos Victoria and the Royal Botanic Gardens Victoria, demonstrating how Victoria's natural history, zoological and botanical collections provide insights to our past and collective future. Article: https://inspiringvictoria.org.au/2022/11/09/caring-for-the-rare/

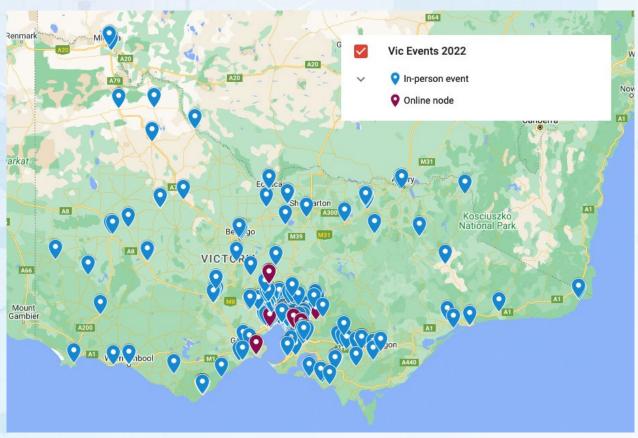
Statewide Program



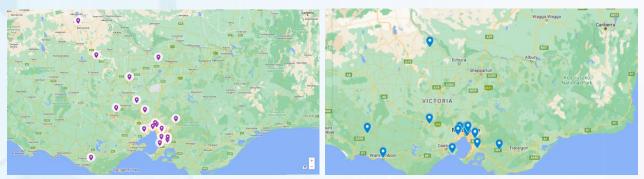


There were 380 events held across Victoria in 2022. 2022 was our State's first National Science Week free from COVID-19 lockdowns since 2019, and it was clear there was great community enthusiasm for a return to in-person events, despite the clear and present dangers of a pandemic that has not yet resolved, and the vicissitudes of extreme weather demonstrating a persistent La Niña climate pattern in Australia.

The geographical coverage was excellent, with National Science Week reaching some of the State's most remote communities in Corryong, Mallacoota, Mildura, Edenhope and Portland. With 75% of Victoria's population concentrated in metropolitan Melbourne, this represents excellent engagement from regional and rural communities. Topic categories were overwhelmingly concerned with "Environment and Nature" across the board.

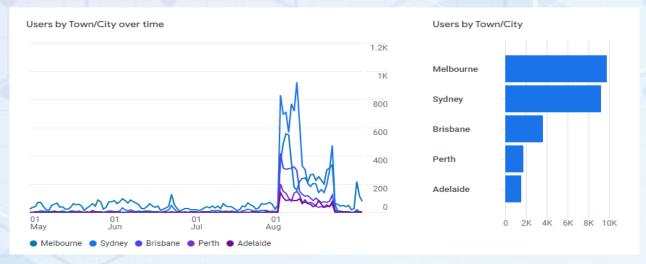


Two seed grant programs stimulated statewide activities for National Science Week via our two participating network partners: Neighbourhood Houses Victoria (left) and Public Libraries Victoria (right), the latter of which also took in community organisations such as regional museums, astronomical societies and even a Men's Shed.



Outcomes and Impact

Websites

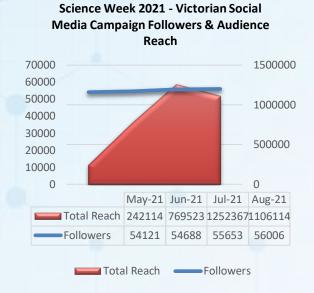


The Inspiring Victoria website at https://inspiringvictoria.org.au/ continues to be our main "base of operations" for the State's National Science Week program, while the Society uses our main page at https://rsv.org.au/ to augment these efforts.

The Inspiring Victoria website attracted 29,943 visitors over the campaign period, with the overwhelming emphasis on the month of August. There was strong interstate interest.

Social Media

We take a snapshot of social media activity from May to August each year, capturing the typical campaign period for raising community awareness of upcoming Science Week activities.

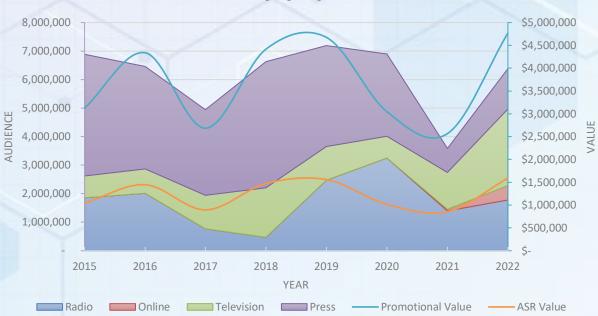




The Society has directed less funding to advertising via social media in 2022 in favour of grant making, meaning reach has been derived through predominantly "organic" posts. This has clearly had a negative impact compared to performance in 2021, particularly given the small increase in total followers. With changes underway at Twitter in terms of who may advertise and how, it is unlikely we will recover this audience reach without considerable financial investment; the days of non-profits self-publishing for low-cost impact appear to be increasingly behind us.

Media Impact





Interest from press media outlets continues to be low compared to pre-pandemic levels, while television and radio coverage of Victorian events and initiatives have grown somewhat. In addition to audience reach, we include both promotional values (typically three times the advertising value) and advertising sales rate value as a crude indicator of return on investment.

2022 coverage of National Science Week in Victoria reached a cumulative audience of 6,379,096 people, with a total promotional value of \$4,767,180.

Targeted Science Engagement

Ockham's Razor LIVE at the Royal Society of Victoria – 28 April

The RSV professionally filmed a series of presentations from Australian scholars in partnership with ABC Science, who captured the audio for the Ockham's Razor program. These presentations have been published on YouTube and further shared via social media channels following broadcast on Radio National and a month of release via the ABC's podcasting platform.



Presentations featured:

- Professor Bob Wong (Monash) sex in a changing world.
- Professor Madhu Bhaskaran (RMIT) wearables, nearables and innovation.
- Professor Virginia Kilborn (Swinburne) Australia's place in the future of radio astronomy.
- Dr Josephine Barbaro (La Trobe) more effective screening for the early detection of autism.
- Ms Priyanka Pillai (Doherty Institute) health informatics and pandemic preparedness.
- Associate Professor Michael-Shawn Fletcher (Melbourne) the myth of Australian 'wilderness.'
- Dr Emily Finch (ANSTO) The Science Doughnut Australia's synchrotron.

Midsumma Lecture - Queers in Science



As part of the 2022 Midsumma Festival, QueersInScience presented a lecture profiling the work of queer scientists in Australia. 2022's Midsumma Lecture was held in partnership with Florey Institute of Neuroscience and the Royal Society of Victoria, supported by the Inspiring Victoria program.

27 January – On Neurodiversity

We recognise that the brain of every individual is unique, meaning not everyone learns or thinks the same way. To reduce the stigma around neurodivergence and mental illness, we explored the science, featuring queer neuroscientists with expertise, followed by a panel discussion with neurodivergent individuals sharing their day-to-day experience.

Featuring Dr Emma Burrows, Kate Huckstep, Liam Leyden with panellists Dr Sophia Frentz MRSV and Dr Daphne Cohen.

STEM and Society

A partnership with the Parliament of Victoria, Parliamentarians for STEM and the Royal Society of Victoria for the Inspiring Victoria program. "Caring for the Rare" was convened as a feature of National Science Week's RARE program (see earlier entry); two further presentations were convened at Victoria's Parliament House to coincide with national and international days of significance.

5 June - Biodiversity Conservation and Recovery in Victoria

On World Environment Day, leaders from government, industry, the community and academia provided their perspectives on protecting and recovering Victoria's biodiversity, exploring:

- initiatives within the private sector to invest in and protect natural systems
- opportunities for First Nations peoples to restore relationships with Country as a feature of cultural landscape management
- science-based interventions and investment tools that can guide and
 resource lead papels in restoring earling

resource local people in restoring ecological health to Victorian regions.



The panellists were comprised of our 2022 Fellows: Ms Fern Hames, Mr Damein Bell, Ms Judith Downes and Professor Brendan Wintle.

Article: https://inspiringvictoria.org.au/2022/11/09/conservation-conversation/

10 July - Science and Culture on Country

During NAIDOC Week, two Wiradjuri scholars -Associate Professor Michael-Shawn Fletcher and Ms Kate Harriden - discussed the exciting opportunities that Aboriginal knowledge offers for urban and regional environmental management.

Across Australia. rich cultural knowledge traditions have been built and adapted over tens of thousands of years by First Peoples. Kate and Michael will discuss how these practices have Mr Bill Bainbridge in conversation with Ms Kate Harriden and been disrupted by European principles of land,



A/Professor Michael-Shawn Fletcher

water and ecological management, with overwhelmingly poor ecological outcomes observed across the continent.

Western science and Indigenous Knowledge each hold great value and are beginning to find a path to each other. Led in conversation by Bill Bainbridge, our two speakers explored the challenges of balancing specialised Indigenous expertise with the disciplinary rigour required for professional research practice.

Article: https://inspiringvictoria.org.au/2022/11/09/science-on-country/

Indigenous Knowledge & First Nations Scientists

9 March – The First Astronomers: How Indigenous Elders read the stars



A special book launch at Science Gallery Melbourne featured a panel discussion with N'arweet Dr Carolyn Briggs AM, Professor Marcia Langton AO, Uncle Ghillar Michael Anderson and author, Associate Professor Duane Hamacher. MC'd by Professor Alan Duffy.

Citizen Science

11 June – Wild Restoration at Organ Pipes National Park

A day out to hear from local experts and learn about the history of the Organ Pipes, using environmental DNA sampling to find local species, learning from Wurundjeri elders and getting involved in restoring habitat and growing native plants.



There were activities for all ages and abilities, with snacks and face painting provided. Buses were provided to transport participants from the Melbourne CBD and Sunshine station in Melbourne's western suburbs. The event was organised by citizen science group Science for All with the support of the Royal Society of Victoria and the Nature Stewards program, jointly funded by a grant from

Brimbank City Council, Inspiring Victoria and public donations with support from the Friends of the Organ Pipes National Park.

Women and Girls

Once again, the Royal Society of Victoria facilitated the Victorian Government's celebration of the International Day of Women and Girls in Science (11 February) under the Inspiring Victoria program through service provision to the Commissioner for Environmental Sustainability and partnership with EPA Victoria and the Department of Jobs, Precincts and Regions. https://www.ces.vic.gov.au/news/united-international-day-women-and-girls-science

women and their careers is science. Together we hope to snapie date women and gifts to fallow their passons and pursue careers in science. Technology, engineering nutrientics and medicine (#575000). (S) International Day of Women and Girls in Science 2022 (Wolvers and Girls in Sc

Public Libraries Victoria – Science Programming

Rocket Science at the Library - September to October



Representatives of the Australasian Cubesat Initiative, The Royal Society of Victoria, Public Libraries Victoria and the Victorian Space Science Education Centre with a program participant.

During September and October of 2022, the **Port Phillip Library Service** ran four workshops teaching secondary students various principles under the banner of "Rocket Science."

Over four weeks, students spent their Saturday afternoons learning about the wonders of space, engineering and physics. At the end of the last class, we had a range of guests from partner organisations there to present certificates of completion to the students and congratulate them for their outstanding achievements.

This pilot project was a partnership between Inspiring Victoria, the Royal Society of Victoria, Public Libraries Victoria, the Victorian Space Science Education Centre and the Australasian Youth Cubesat Initiative, providing grants to fund this program alongside major funding from the City of Port Phillip.

Greening Libraries

With the support of Inspiring Victoria, this project will support library services to share and collaborate with a wide range of resources and case studies to provide their communities with the best chance to become more environmentally sustainable.

This project will empower libraries and their communities to engage in environmental sustainability

efforts, inspire local action and increase public understanding of science through three key focus areas:

- Development of a suite of sustainability resources on a user-friendly portal for libraries and the public to access.
- Hosting and marketing networking events and opportunities including, but not limited to, National Science Week and on World Environment Day annually.
- Development and implementation of resources to support public libraries across Victoria to understand, and report on, their contribution to the UN SDGs.

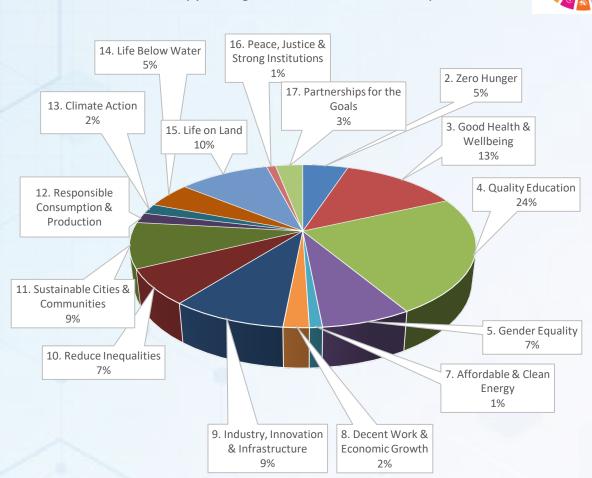
The portal will highlight key programs, partnerships, policies and initiatives that all libraries can easily adapt and translate into their service. The key goal is supporting the library community to increase their science knowledge and interest to become more environmentally sustainable, and spotlighting library services who make a positive impact to inspire sustainability in other library services.

Funded in 2022, this program will return its first report on National Science Week delivery in 2023.

Program Impact 2023

Program Activities in Support of the Sustainable Development Goals

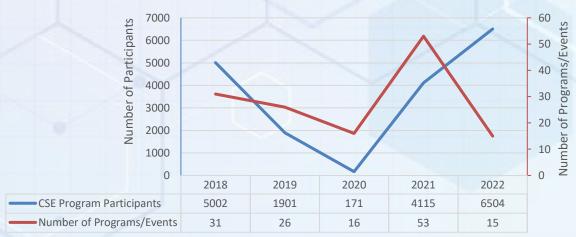
2022 Grants - Supporting the Sustainable Development Goals



Across 38 events directly supported through grant making, all targeted at least one Sustainable Development Goal, as above. Notably, "Quality Education" emerged as the dominant Goal addresses, followed by "Good Health & Wellbeing," "Life on Land," "Sustainable Cities & Communities" and "Industry, Innovation & Infrastructure."

Event Audiences

Targeted Science Engagement Program - Events & Participants



Despite the smaller number of events held outside National Science Week in 2023, the online delivery of key events enabled a larger audience share.

Support for Equity Groups

Targeted Equity Groups - 2022 Program

26.44

Regional, Rural or Remote

Migrant Communities

Indigenous Australians

Women & Girls

People with Disabilities

LGBTQIA+

Low SES

Across 38 events directly supported through grant making, all targeted at least one equity grouping, as above.

Auspicees

We auspiced the public engagement, grant application and fundraising efforts of the following partner programs in 2022:

Geography Victoria

Geography Victoria is a new initiative by a collective of scholars and educators, convening a community of people fascinated with the Earth's dynamic natural systems and the activities of humanity within them, offering talks and field trips to help Victorians form a deeper understanding of and relationship with the world around us.

BioQuisitive Community Lab

BioQuisitive is an open community laboratory, a safe environment for people from all walks of life to come and "learn by doing" about biology and life sciences, and to get involved in workshops, classes and projects. By providing open access to practical experience in the life sciences, BioQuisitive provide a valuable resource for community education and community-led projects.

The Phoenix School Program

The Phoenix School Program diverts professional scientific equipment from landfill and donates it

to schools in need. Support is sought to extend the program's capacities, from equipment storage and logistics through to engagement with schools on the technical aspects of scientific inquiry.

The BrainSTEM Innovation Challenge

BrainSTEM offers students in metropolitan and regional areas the opportunity to work in a research environment and participate in the journey of scientific discovery, side by side with their university mentor. Programs include a 12-week Innovation Challenge and workshops on building adaptable, resilient minds and design thinking. Support is sought to bring on board more mentors and to offer programs in more rural and remote areas while keeping program costs to low-SES schools and communities as low as possible.

Science for All

Science for All involves people of all ages in multiple projects, leading regular trips into the local forest ecosystems to support scientific field work and provide hands-on learning about how to conduct research. This includes 'Campfires and Science' events and the 'Wild DNA' project, teaching people to test for the presence of critically endangered species using environmental DNA sampling.

Let's Torque

Let's Torque is a STEM public speaking competition for undergraduate students, by undergraduate students, that has been held across Victorian universities since 2017. The mission of the competition is to build students' STEM communication skills through practice and workshops, and spread exciting STEM concepts that could benefit Australia in the future. Co-founders Isobel Campbell and Josh Zail, along with past team members, studied the Advanced Science - Global Challenges program at Monash University, where they were taught valuable STEM communication skills and were inspired to give all undergraduate students the same opportunity!

Please Support our Auspicees

These are outstanding programs aligned with the RSV's mission to promote scientific literacy and participation for everyone in Victoria. We warmly encourage everyone to learn more about these initiatives and consider providing financial or other forms of support to these commendable efforts – more information is available from https://rsv.org.au/support-the-rsv/.



From the Honorary Treasurer

Mr Siddharth Verma MRSV

As Honorary Treasurer it is my duty to report to the Royal Society of Victoria's membership on the financial activities and financial performance of the Society over the last year. The auditor's review statement and annual Financial Report, with extensive notes, are included with this RSV Annual Report; to aid comprehension, I provide further details in this Treasurer's report, in particular offering a perspective on the RSV's core

operating costs as distinct from the delivery of outreach activities supported through grant funding and philanthropy.

Please note these details are not within the scope of our auditor's report, which follows in the following section of the Annual Report. Numbers are derived directly from our accounting system.

The changes wrought by the COVID-19 pandemic continue to challenge the Society, mostly due to the nature of our income being related to physical gatherings in our buildings and associated venue hire. From late 2021, we were obliged to cut our staffing base significantly to constrain ongoing costs.

A Going Concern

At the conclusion of this financial year, it is determined that the current assets of the organisation exceed our liabilities. As such the RSV is considered to continue to be a going concern.

As discussed in last year's report, we are most effectively sustained by our small investment portfolio. Our reliance on this capital base means we must avoid its value declining beyond a threshold set by Council some years ago. We have been balancing expenditure of investment returns and the liquidation of capital to underwrite recurrent deficits for many years and, while we have accepted some risk in expanding our horizons in recent times, we have also prudently sustained our investment corpus.

2022 has demonstrated the wisdom of this policy; the "rainy day" that our capital has been kept aside to insure the Society against a major financial downturn arrived, and our soft landing was ready. We were obliged to sell \$220,000 in value from our investments to support our cash position in 2022, but the portfolio's value remains above the threshold set by Council.

We continue to refine our portfolio in line with the mission and positions taken by the Society with regard to human life and dignity, environmental impacts and the mitigation of anthropogenic climate change, divesting and reinvesting accordingly. We record our thanks to Mr Steven Leung of Equity Trustees for his support and sage advice.

Science Program

The RSV Council completed a four-year program in 2021 and extended its delivery of the Inspiring Victoria initiative for a further year in 2022 as we lobbied for State Government funding support. Our investment in this statewide outreach program reflects a commitment to demonstrating the relevance of the RSV's mission to the Victorian community, which has been an enormously successful exercise. The reputation and presence of the Society has been strengthened by vibrant partnerships that bring a grass roots network of Victorians together with state institutions aligned with our mission to improve community science engagement and literacy, such as Museums Victoria and the Royal Botanic Gardens Victoria, who typically operate place-based programs and value the opportunity to engage with regional Victorians in particular.

Without demonstrating this relevance and sustaining such a network, it becomes difficult to attract further funding through grants, external benefactors and government agencies. Further, the reputation this affords the RSV is key to the success of future attempts to commercialise certain aspects of our operations in order to attract new revenue streams.

However, the reduction in our staffing base due to COVID impacts placed our efforts in some

jeopardy; we are now stretched very thin, operating with two staff members (comprising a 1.8 Effective Full-Time load) in 2022. With staff funding now assured from mid-2023, we can begin to rebuild. New structures to leverage the skill base and professional availability of our members are in development, as is the affiliation program set in train by changes to our Rules in 2019.

Staffing

Both the Executive Committee and the RSV Council consider the level of staffing for the organisation on a regular basis. Following the reductions of 2021, in 2022 the RSV sustained a bare minimum of staff "on the books" in anticipation of the continued reduction in use of our facilities and the general down-turn in business activities. This has led to the reduction in spending on salaries, as well as a reduction in spend (and/or liabilities) associated with employee benefits and leave.

\$450,000.00 \$400,000.00 \$350,000.00 \$300,000.00 \$250,000.00 \$200,000.00 \$150,000.00 \$100,000.00 \$50,000.00 \$-2015 2017 2018 2020 2021 2022

RSV Staffing Expenditure, 2015 - 2022

The Hall and Grounds

Enduring COVID-19 pandemic conditions meant we were only able to provide for 7 meetings on site during the year. The **Environmental Protection Authority Victoria** continued their lease on the former Bureau of Meteorology site to undertake air pollution monitoring activities. Science communication agency **Scientell** continued their lease of the large office upstairs. **Flexicar** sustained their lease of a carshare space with the provision of a community vehicle adapted for use by local drivers with mobility impairments. **Eucalypt Australia** terminated their lease of the Nancy Millis Room.

Revenues from the RSV's tenancies, venue hire, and on-site event operations were in keeping with the previous year's result, with a turnover of \$77,259. Hall hire was marginal with 33 bookings able to proceed. In addition to the general economic downturn from the pandemic, the inaccessibility of our facilities to those with physical impairments are having a noticeable impact on business, with an estimated 40% of all new bookings cancelled due to the lack of a lift and disability accessible toilets in our heritage-listed facilities.

	2015	2016	2017	2018	2019	2020	2021	2022
Number of Meetings	362	353	358	370	243	27	7	33
Revenue from Tenancies & Venue Hire	\$164,546	\$189,147	\$190,388	\$211,725	\$249,301	\$22,883	\$64,720	\$63,706
Revenue from RSV Events		\$39,358	\$14,720	\$21,068	\$33,876	\$3,753	\$8,535	\$13,553
Total Venue & Events Revenue	\$164,546	\$228,505	\$205,108	\$232,793	\$283,177	\$26,636	\$73,255	\$77,259

Revenue

With contributions from the Australian Government's JobKeeper program and the Victorian Government's Business Support Fund concluding in early 2021, and no significant return to prepandemic levels of demand for venue hire, the Society found itself over a "fiscal cliff" in 2022. This was an anticipated scenario, with significant efforts expended by the CEO and Council to secure sustainable program funding for the 2023 – 26 period in the years leading up to and including 2022.

Revenue: RSV Core Programs 2022

	Executive	Fundraising	Membership	Policy and Advocacy	Publications, Records & Collections
Donations and Bequests	\$0.00	\$5,695.09	\$0.00	\$0.00	\$0.00
Event and Symposia Income	\$139.64	\$0.00	\$0.00	\$7,875.20	\$0.00
Franking Credits and Interest Income on Bank Accounts	\$6,544.00	\$0.00	\$0.00	\$0.00	\$0.00
Memberships	-\$72.73	\$0.00	\$50,077.69	\$0.00	\$0.00
Grants	\$0.00	\$0.00	\$0.00	\$9,500.00	\$0.00
Other Revenue	\$131.72	\$0.00	\$0.00	\$0.00	\$0.00
Publications and Books	\$0.00	\$0.00	\$0.00	\$0.00	\$763.09
Science Foundation Dividends, Distributions, and Interest Income	\$29,765.78	\$0.00	\$0.00	\$0.00	\$0.00
Column Totals:	\$36,508.41	\$5,695.09	\$50,077.69	\$17,375.20	\$763.09
	Science Awards & Prizes	Science Program	Ad Hoc Venue Hire	Leases and Tenancies	
Donations and Bequests	\$0.00	\$0.00	\$0.00	\$0.00	
Event and Symposia Income	\$0.00	\$5,678.07	\$0.00	\$0.00	
Grants	\$0.00	\$305.00	\$0.00	\$0.00	
Other Revenue	\$0.00	\$933.00	\$1,266.50	\$0.00	
Leases and Tenancies	\$0.00	\$0.00	\$0.00	\$47,785.78	
Venue Hire Income	\$0.00	\$0.00	\$15,920.44	\$0.00	
Column Totals:	\$0.00	\$6,916.07	\$17,186.94	\$47,785.78	
Total Revenue					\$343,181.17

Revenue: RSV Grants & Partnerships 2022

Auspicees	Australian Indigenous Astronomy	Geography Victoria	Girls in I	Physics	Let's Torqu	е	Science for All
Donations and Bequests	\$0.00	\$0.00		\$0.00	\$0.00		\$0.00
Grants	\$0.00	\$5,000.00		\$0.00	\$0.00		\$0.00
Publications & Books	\$1,448.18	\$0.00		\$0.00	\$0.00		\$0.00
Column Totals:	\$1,448.18	\$5,000.00		\$0.00	\$0	0.00	\$0.00
Inspiring Victoria	IA - Partnership Network	IA - Science Large Ev			ience Week atewide		IA - Staffing
Grants	\$66,500	0.00 \$2	25,000.00		\$50,000.00		\$50,000.00
Total Revenue							\$197,948.18

Expenses

There has been a decrease in our operating expenses commensurate with the loss of business and a reduction in our grant funding from the Commonwealth for the Inspiring Victoria program in 2022. Reductions in staffing and outreach program expenditure have helped deliver this result – with our staff corpus reduced to 1.8 positions, our 2022 staff expenditure was \$66,035 less than in 2021 – but we have been unable to further constrain expenses without also dispensing with the key

programs that are to be fully funded from 2023.

Our exploratory efforts in piloting a cross-sector forum and developing a consequent position paper proved an unexpectedly expensive exercise, with \$79,217.79 allocated across the year to the RSV's Policy and Advocacy efforts, mainly for our biodiversity conservation and recovery paper but also taking in a symposium showcasing new technologies in development for controlling invasive animal species in Australia.

Expenses: RSV Core Programs 2022

	Executive	Fundraising	Membership	Policy and Advocacy	Publications, Records & Collections
Accounting	\$4,636.36	\$0.00	\$0.00	\$0.00	\$0.00
Advertising, Promotion and Website	\$4,741.29	\$0.00	\$162.81	\$0.00	\$175.00
Assets < \$20,000	\$5,708.06	\$0.00	\$0.00	\$0.00	\$0.00
Bank Fees	\$1,511.77	\$2,168.07	\$2,168.07	\$0.00	\$0.00
Books & Subscriptions	\$0.00	\$0.00	\$1,515.72	\$3,643.82	\$4,640.0
Catering	\$0.00	\$0.00	\$3,012.56	\$2,676.73	\$0.0
Cleaning	\$6,872.29	\$0.00	\$0.00	\$0.00	\$0.0
Depreciation	\$154,866.86	\$0.00	\$0.00	\$0.00	\$0.0
Event Management	\$0.00	\$0.00	\$0.00	\$19,704.00	\$0.0
Grants and Sponsorships	\$0.00	\$1,025.00	\$0.00	\$0.00	\$0.0
Insurance	\$21,322.04	\$0.00	\$0.00	\$0.00	\$0.0
Investment Manager fees and charges	\$5,018.68	\$0.00	\$0.00	\$0.00	\$0.0
Legal	\$9,000.00	\$0.00	\$0.00	\$0.00	\$0.0
Office	\$13,320.53	\$0.00	\$2,023.72	\$436.36	\$701.6
Postage and Courier	\$106.82	\$0.00	\$0.00	\$436.36	-\$22.9
Printing, Publishing & Productions	\$0.00	\$0.00	\$15.00	\$0.00	\$9,349.4
Professional Services	\$0.00	\$0.00	\$0.00	\$9,535.62	\$0.0
Repairs and Maintenance	\$13,847.44	\$0.00	\$0.00	\$0.00	\$0.0
Telephones and Internet	\$24,595.26	\$0.00	\$0.00	\$0.00	\$0.0
Travel and Accommodation	\$76.45	\$0.00	\$0.00	\$1,506.26	\$0.0
Utilities and Rates	\$11,508.21	\$0.00	\$0.00	\$0.00	\$0.0
Staffing	\$69,822.77	\$0.00	\$0.00	\$0.00	\$0.0
Column Totals:	\$346,954.83	\$3,193.07	\$8,897.88	\$79,217.79	\$14,843.14
	Science Awards & Prizes	Science Program	Ad Hoc Venue Hire	Leases and Tenancies	
Advertising, Promotion and Website	\$0.00	\$400.00	\$0.00	\$0.00	
Awards and Prizes	\$10,868.67	\$0.00	\$0.00	\$0.00	
Catering	\$0.00	\$5,066.48	\$0.00	\$0.00	
Office	\$0.00	\$728.31	\$278.49	\$0.00	
Printing, Publishing & Productions	\$0.00	\$1,040.00	\$0.00	\$0.00	
Staffing	\$0.00	\$0.00	\$330.00	\$0.00	
Column Totals:	\$10,868.67	\$7,234.79	\$627.39	\$0.00	
Total Expenses					\$469,654.4

Expenses: RSV Grants & Partnerships 2022

Auspicees	Australia Indigeno Astronon	us	Geography Victoria	Girls in F	Physics	Let's Torque	So	ience for All
Grants and Sponsorships		\$0.00	\$0.00	\$	1,625.00	\$5,000.	00	\$231.79
Inspiring Victoria	IA - Partr Netw		IA - Science Large Ev			ence Week atewide	IA -	Staffing
Advertising, Promotion and Website		\$8,143.46	\$	\$9,416.10		\$6,472.60		\$0.00
Grants and Sponsorships	5	\$14,094.86	\$1	10,000.00		\$35,495.45		\$0.00
Insurance		\$9,126.00		\$0.00		\$0.00		\$0.00
Office		\$2,030.24	\$	2,036.27		\$604.48		\$0.00
Postage and Courier		\$0.00		\$0.00		\$238.53		\$0.00
Printing, Publishing & Productions	5	\$37,358.92	\$	\$2,550.00		\$3,610.00		\$0.00
Professional Services		\$0.00		\$0.00		\$3,000.00		\$0.00
Travel and Accommodation		\$229.16		\$0.00		\$0.00		\$0.00
Venue Hire		\$689.77		\$0.00		\$0.00		\$0.00
Wages and Salaries - Permanent Staff		\$0.00		\$0.00		\$0.00		\$120,000.00
Column Totals:	\$	71,672.41	\$2	4,002.37		\$49,421.06		\$120,000.00
Total Expenses								\$271,952.63

Surplus/Deficit and Performance Against Budget Performance Against Budget

The Royal Society of Victoria: Performance Against Budget, 2012 -2022

With Projected Budget 2023-4



Our budget aim for 2022 was to raise \$378,079 in revenue – we raised \$375,087.62. We anticipated \$619,294 in expenditure – we spent \$744,038.51.

Our budgeted deficit was for (\$241,215), our actual deficit was (\$369,060). This represents an adverse variance to budget of (\$127,845).

These numbers are drawn from our Xero accounting database, based on our operating budget under an accrual accounting regime. Our Auditor's financial report in the section to follow provides the RSV's position with the following adjustments:

- Reallocated unrealised loss on investments (\$20,055)
- Reallocated realised loss on investments (\$19,598)
- Reversed prior year franking credits received (\$11,159)
- Recorded franking credits receivable per EQ Portfolio \$6,541
- Reallocated income received in advance from prior year (\$1,000)

Deficit per Pitcher Partners Financial Report: (\$414,334)

Core Programs

In our core program, a net deficit of (\$294,107) is influenced considerably by the depreciation expense line item of (\$154,867). This is effectively an accrued write-off of the value of our fixed assets over time. While this is a useful tool for understanding the investment over time required in the upkeep of our heritage buildings in particular, it does not represent an actual cash expense; if we were to remove it, the result for the core program returns an operating deficit of (\$139,240).

Grants and Partnerships

The Inspiring Victoria program is a major expense of the Society, requiring expenditure on staffing to meet our grant commitments. In 2022, our contribution returned an operational deficit across these activity areas of (\$74,004), which was (\$4,004) adverse to budget. Negotiations are now completed on new contracts with the Commonwealth and State Governments that ensure the Society will no longer contribute a share of staff funding for the program from mid-2023.

Fundraising 2022

The Society gratefully acknowledges the following Members for their generosity (titles and post-nominals omitted):

Peter Baines Peter Grossman **David Platzer** William Birch John Harrison Sandra Rees Philip Bowman Milton Hearn **Thomas Roche** Alice Brush **Pauline Ladiges** Brian Salter-Duke Charles Clark John Le Marshall Chris Simpson Martin de Graaf Richard Lodder Steven Sweeney **Judith Downes** Paul Martin Jan van Deventer Pera Wells **Donald Gaff** Bram Mason Voi Williams Rob Gell Dorothy McLaren Judith Gordon **Thomas Mole** Kenneth Greatorex Joan Phillips

Funds raised from members and supporters in 2022 totalled **\$5,695**. All funds were directed to the Society's highest priorities.

Society directed \$10,868 in funding to its awards and prizes: \$6,398 directed to support our **Young Scientist Research Prizes**, \$3,000 to support the **Phillip Law Postdoctoral Award** and \$1,470 to cast the silver **RSV Research Medal**.

- Mr Siddharth Verma, Honorary Treasurer