

The Royal Society of Queensland
PO Box 6021, St Lucia, Queensland 4067, Australia
General enquiries rsocqld@gmail.com
ABN 64 658 824 035

4 December 2021

Members' Newsletter 2021 No. 14

AGM, Nominations for Council, Volume 129 complete, John Jell Award, new Honorary Editor – and more.

Annual General Meeting – CHANGE OF VENUE

The AGM of the Society is proposed to be held on **Thursday 9 December** in the **UQ General Purpose Building North 39A room 209.**

This room has been selected because it can accommodate up to 40 people and has a facility to connect via Zoom, unlike the Brisbane City Council library room previously advised.

The room is approached from Campbell Rd (the continuation of Sir Fred Schonell Drive) after the roundabout by the oval. Walk across the open space at the entrance to the right hand side of the building and the entrance to 209 is just to the left of the building. Or it can be approached from the lift side.

Click on the following link for a map of the location:

<https://www.bing.com/maps?osid=197641d8-d7d2-4f8e-a850-4fd0eca355d5&cp=-27.495213~153.013473&lvl=18&v=2&sV=2&form=S00027>

Click on the following link for a map of the building:

<https://www.bing.com/maps?osid=bf215743-e7ae-4da2-b8c5-63e3aaf9ffb1&cp=-27.494983~153.013786&lvl=19&v=2&sV=2&form=S00027>

UQ no longer allows comestibles in such venues. Further advice as to catering and parking will follow in another advice to members during the week.

Also, Council has decided that every person who attends should bring a certificate attesting to double vaccination, or sign a statutory declaration to that effect on arrival. Declaration forms and a Justice of the Peace will be available to witness statutory declarations.

The AGMs are traditionally friendly affairs with time to share stories and ideas with old friends and new acquaintances alike.

Agenda

3.15pm informal meet and greet and check-in.

4.00pm SHARP **Dr Michaela Blyton**, recipient of a grant from the Australian Koala Foundation as a participant in Research Fund Round 2, will present on the results of her research project on koala microbiomes. Dr Blyton's project proposal explained that:

Throughout their wide geographic range, koalas always eat Eucalyptus leaves. Few animals can stomach let alone survive on these fibrous, toxic leaves and koalas are thought to rely on their gut microbiomes to help them digest their nutritionally poor diets.

4.15pm Member **Dr Philippa England** will present on her proposal for a system of "Green Vouchers" as a means of reimbursing landholders for stewardship actions, an alternative to carbon market payments. Please see attached briefing note.

5.00pm AGM

6.00pm Close.

For online connection to a "scheduled Zoom meeting"

Join from PC, Mac, Linux, iOS or Android: <https://uqz.zoom.us/j/81096139065>

Or iPhone one-tap (Australia Toll): +61280152088, 81096139065#

Or Telephone: +61 2 8015 2088, Meeting ID: 810 9613 9065

International numbers available: <https://uqz.zoom.us/j/kblimbv6LX>

Or dial by your location: +61 7 3185 3730 Australia

Or Skype for Business (Lync): <SIP:81096139065@lync.zoom.us>

New Honorary Editor

I am delighted to announce that Council has accepted an offer from member [Dr Justyna Miskiewicz](#), Honorary Senior Lecturer, School of Social Science, University of Queensland, to serve as Honorary Editor for volume 131, the 2022 annual edition of the *Proceedings of The Royal Society of Queensland*. Dr Miskiewicz is a biological anthropologist who specialises in hard tissue histology. She works with "anthropological and archaeological collections of human skeletal remains and post-mortem samples, to investigate skeletal plasticity (bone remodelling) in a variety of lifestyle contexts". Some members met her at the reception at Government House in June 2021.

The Editor for volume 129, **Assoc. Prof. Julien Louys**, has agreed to support Justyna and will take on the role of Assistant Editor.

An invitation is now extended to all members to submit articles for publication in the 2022 edition. Please contact Justyna via editor@royalsocietyqld.org .

Editing our journal on behalf of Queensland's scientists is a signature responsibility and Council warmly welcomes Justyna to the position.

Annual General Meeting – Nominations

By the Constitution, all positions on Council are vacated at the AGM. The current Councillors are:

Prof Angela Arthington

Dr Heather Douglas

Dr Geoff Edwards – Vice-President, Communications and Policy

Mr Andy Grodecki

Mr James Hansen – Secretary

Dr Ross Hynes – President

Adj Assoc. Prof. Trevor Love

Mr Col Lynam – Editor, QSN Newsletter and Coordinator, Research Fund

Dr Joseph McDowall – Treasurer.

Nominations can be made from the floor at the AGM, but it would be helpful to know of proposals to nominate in advance. **Would any member willing to serve on Council please let Secretary [James Hansen](#) know as soon as possible.**

Farewell to Em. Prof. Angela Arthington

Emeritus Professor Angela Arthington has advised that she will not stand for election to the Council at the AGM.

Prof Arthington has been appointed as Specialty Chief Editor of the International Journal *Frontiers in Environmental Science - Freshwater Science*.

It is an important role and Prof Arthington is a most worthy incumbent.

We will certainly miss Angela's professional and wise contribution to the Society. In particular, her period as Editor was one of outstanding achievement. Her discharge of that role and membership of Council has always been ethical and her advices deeply considered. She also transformed the management of the editorial process.

She will be seriously missed by Council. We send best wishes for every success in her new and prestigious role.

Volume 129 now complete

All but one article have now been loaded online as volume 129 of the annual *Proceedings of The Royal Society of Queensland*: <https://www.royalsocietyqld.org/proceedings-129/>. Congratulations to the authors of the scientific articles, citations and the student abstracts published to date. A summary of the table of contents is appended to this Newsletter.

The volume is now on its way to the printer with an anticipated release date of Christmas.

The Society owes a substantial debt to **Assoc. Prof. Julien Louys** for bringing this volume to completion, on time, and to a high standard of scholarship and presentation. Council is gratified that Julien will remain involved with the next issue.

Members' Online Discussion - Carbon marketing and Green Vouchers

A members' online Zoom discussion was held on **16 November** on carbon marketing and the Queensland Government's Land Restoration Fund. More information in the next Newsletter. Please also see attached briefing note.

Research Fund – Strong Field

This year's Round 4 of the Research Fund received 21 applications, far more than in any previous year. An Assessment Panel chaired by Research Coordinator **Col Lynam** has been working assiduously to rank them for scholarly rigour and value for money. The team will endeavour to complete their task in time to announce the winner(s) at the AGM.

Dr John Jell awarded AM

Council is delighted that **Life Member and Honorary Professor Dr John Jell** was recognised in the Queen's Birthday 2021 honours with membership in the General Division (AM) for his significant service to environmental science education and geological societies. The citation was "For significant service to environmental science education, in a range of academic positions at the University of Queensland, and to geological societies, including the International Fossil Coral and Reef Society, the International Commission on Stratigraphy, the Geological Society of Australia, the Great Barrier Committee this and the Royal Society of Queensland". The citation from the Office of the Governor-General is appended.

An interview with Dr Jell has been published by the University of Queensland:

<https://science.uq.edu.au/article/2021/07/classroom-reef-professor-jell-honoured> . The article ends with some sage advice:

“With the insight that comes from 60 years of dedicated research, Professor Jell’s advice to the next generation of science students is simple: stay focused and hungry.

‘Don’t get hung up on setting goals, do your research, follow your interests and take opportunities when they arise,’ he said.

‘It’s so important in your research to never compromise on scientific rigour.’”

Congratulations, Dr Jell.

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Best wishes to all members.

Ross Hynes

President

0428 721 918

president@royalsocietyqld.org.au

Secretary James Hansen, secretary@royalsocietyqld.org.au

Treasurer Joseph McDowall josephmcdowall@gmail.com

VP, Communications & Policy Geoff Edwards vice-president-cp@royalsocietyqld.org.au

QSN Newsletter Editor Col Lynam newsletter@royalsocietyqld.org.au

Honorary Editor Julien Louys editor@royalsocietyqld.org

Membership Coordinator Tony Van Der Ark membership@royalsocietyqld.org.au

Administration Coordinator Pam Lauder rsocqld@gmail.com

SUMMARY TABLE OF CONTENTS OF VOLUME 129

Author	Keywords	Title
P. Jell	Trilobite, <i>Modocia</i>	A New Species of <i>Modocia</i> in the Late Middle Cambrian Devoncourt Limestone
E. Jones	[Thesis abstract]	Pathological and Clinicopathological Features of Canine and Feline Bladder Disease
J. Riedel	[Thesis abstract]	Evolution and Ecological Adaptations of Microornamentation in Australian Geckos
A. Specht	[Obituary]	Raymond Louis Specht, 1924–2021
Council of the Society	[Citation]	Life Membership to Craig Walton
B. Campbell, G. Price, J. Louys, and J. Miskiewicz	dental microstructure, crocodile	Crocodile Tooth Histology from a Pliocene Deposit in Chinchilla, Queensland
P. Anderson and W. Orchiston	planetariums, Sir Thomas Brisbane Planetarium	The Sir Thomas Brisbane Planetarium and Amateur Astronomy in Queensland
Council of the Society	[Citation]	Life Membership to Dilwyn J. Griffiths
P. Jell, I. Percival and A. Cook	Shelly fossils, fault block, Yarrol Fault	Ordovician Fauna in a Small Fault Block on the Yarrol Fault, Central Queensland
P. Williams and B. Clouten	threatened flora, protected plants, flora survey guidelines	An Appraisal of the Queensland Flora Survey Guidelines for Protected Plants, Through a Survey of <i>Ipomoea antonschmidii</i>
N. Stork	forest canopy, tropical rainforest, forest drought experiment	The Daintree Canopy Crane: Conception, Installation and Operation
R. Hynes		Presidential Address : Edges of Science and Challenges of Communication:
R. Hynes		Annual Report.

JOHN JELL AM

Name	Dr John Samuel JELL
Award	Member of the Order of Australia
Post-Nominal	AM
Date Granted	14th of June, 2021
State	QLD
Citation	For significant service to environmental science education, and to geological societies.

University of Queensland

- Head, Department of Earth Sciences, 2000-2001.
- Honorary Professor, School of Earth and Environmental Sciences, since 2009.
- Chair, Dorothy Hill Physical Sciences and Engineering Library Users' Committee, 1998-2001.
- Reader/Associate Professor, 1991-1999.
- Deputy Director, School of Marine Sciences, 1992-1998.
- Member, Board of Studies in Environmental Science, 1991-1998.
- Member, Science Executive Committee, 1991-1995, 1985-1986, 1975-1976.
- Member, Heron Island Research Station Advisory Board, 1985-1999.
- Deputy Chair, Heron Island Research Station Board, 1977, and Board Member, 1975-1978.
- Sub-Dean of Science, 1986-1988.
- Senior Lecturer, 1974-1990.
- Lecturer, 1972-1973.
- Senior Demonstrator/Research Fellow, 1967-1971.
- Demonstrator, 1962-1963.
- Teaching Fellow, 1960.

Media Note

International Association for the Study of Fossil Cnidaria and Porifera (now the International Fossil Coral and Reef Society)

- President, 1988-1991.
- Vice-President, 1975-1988.
- Secretary, 1971-1975.
- Editor, 1979-1983.

International Commission on Stratigraphy

- Member, International Stratigraphic Sub-Committees, Silurian and Devonian Systems, since 1970s.

Geological Society of Australia

- Federal Executive Member, 1973-1975.
- Member, Editorial Board, 1997-2001.
- President, Association of Australian Palaeontologists, 1996-1997, Vice-President, 1994-1995, and Treasurer, 1985-1987.
- Secretary, Earth Sciences History Specialist Group, 2014-2021.

- Fellow, 1999.

Queensland Division, Geological Society of Australia

- President, 1973-1974.
- Secretary, 1969-1972.
- Executive Member, 1987-1988.
- Member, Queensland Sub-Committee, Stratigraphic Nomenclature Committee, since 1980.

Great Barrier Reef Committee (laterly Australian Coral Reef Society)

- Treasurer, 1973-1978.
- Councillor, 1973-1979.

Royal Society of Queensland

- President, 1996-1997.
- Vice-President, 1994-1995.
- Councillor, 1998-2000 and 1970.
- Honorary Life Member, 2000.

Other

- Honorary Research Fellow, Queensland Museum, since circa 1990.
- Councillor, Australian Coral Reef Society, 1991-1994 and 1984-1988.
- Secretary/Treasurer, Queensland Palaeontographical Society, 1969-1976.

Anglican Diocese of Brisbane

- Member, Anglican Schools Commission, 1993-2012.
- Member, Council of Education, 1985-1991.
- Chair, Chair's Advisory Committee, 8 years.
- Chair, Anglican Church Grammar School, 1996-2003, and Councillor, 1980-2003.

Awards and recognition include:

- 40 Years of Service Certificate of Appreciation, Geological Society of Australia, 2018.
- H Milne-Edwards Medal, International Association for Study of Fossil Cnidaria, 2011.
- Dorothy Hill Medal for outstanding contributions to the Geology of Queensland, Geological Society of Australia, 2002.
- Nuffield Travelling Fellowship, University of Cambridge, 1972.

Announcement Event	The Queen's Birthday 2021 Honours List
Award ID	2009382

Environmental stewardship payments: a value for money funding proposal

Author: Dr Philippa England,
Adjunct Academic, Griffith University.
Contact email: P.England@griffith.edu.au

Introduction

Queensland's climate is changing: hotter temperatures, more frequent and more severe extreme weather events are predicted to occur across Queensland.¹ These changes will place increasing strain on the wellbeing and condition of our natural capital base with impacts on the profitability of rural industries, for example, agriculture and tourism, and flow on effects for coastal communities, for instance, increased air pollution, sediment run-off and flooding. To date, the Queensland Government's approach to dealing with the impacts of climate change in the land management sector has focused on research, information and some extension activities.² These are valuable initiatives but they rely on land managers to voluntarily access and implement the advice so provided. This may limit the audience to highly motivated, well-informed and innovative operators. Additional measures are urgently required to ensure the broader uptake of land management practices that are known to build resilience across the landscape (see Schedule 1). This funding proposal is designed to fill this gap. Specifically, it aims to:

- reach out to landholders not willing or able to engage with sophisticated funding and support mechanisms;
- minimise bureaucracy and red tape;
- operate at scale across the whole land management sector; and
- allow a degree of flexibility, autonomy and tailoring to suit regional circumstances.

Key elements of the proposed scheme are discussed below.

The proposal in outline

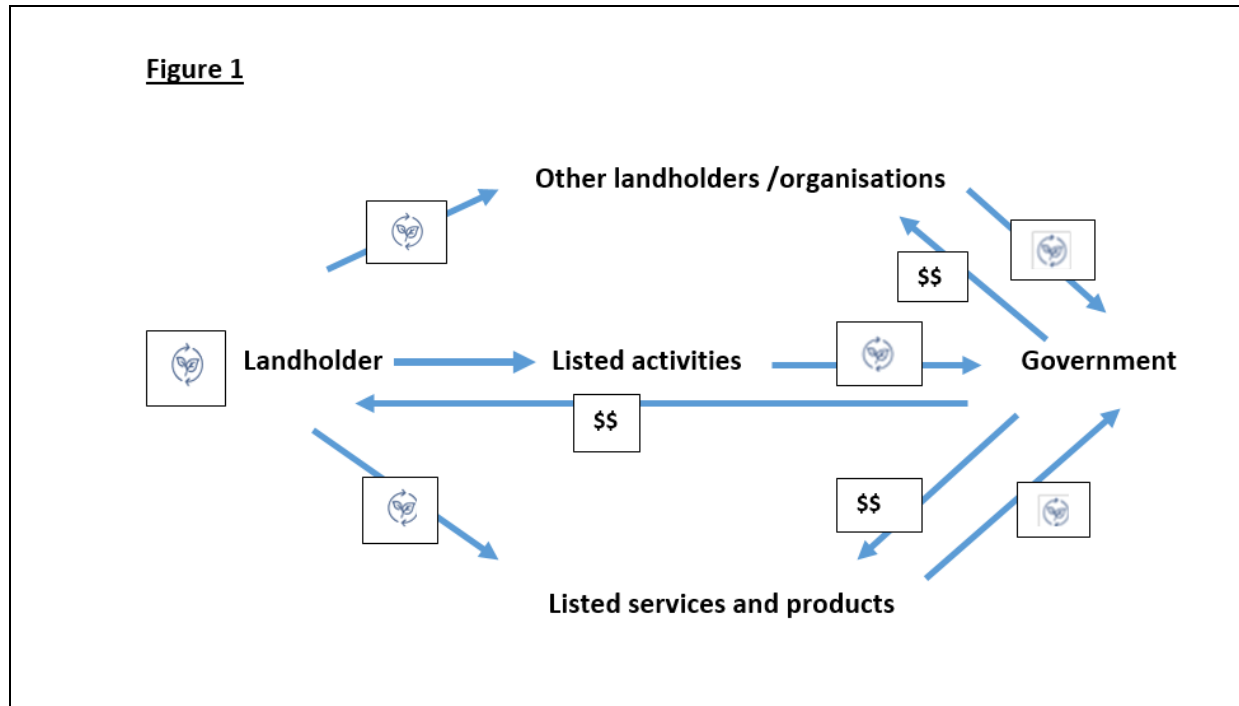
This proposal is for a funding scheme that will encourage landholders to adopt improved management practices to enhance climate resilience across the whole landscape for the mutual benefit of our natural capital assets and the industries and communities that rely on them. In the proposed scheme, Environmental Stewardship vouchers will be distributed to all landholders who meet a threshold requirement of maintaining 20% or more of their land under native tree cover (remnant, planted or regrowth).³ These Environmental Stewardship vouchers will be redeemable against the government on purchase or completion of any pre-identified products,

¹ Department of Environment and Heritage Protection, *Pathways to a climate resilient Queensland: Queensland Climate Adaptation Strategy 2017-2030*, Queensland Government, p. 5. Note this proposal is consistent with the Agricultural Sector Adaptation Plan in the Queensland Adaptation Strategy which aims to, "Enhance investment in programs and initiatives that support innovation and resilience" (at p.28).

² The Long Paddock and the Drought and Climate Adaptation Program, for instance.

³ Rolfe, J, "Economics of vegetation clearing in Queensland", (2002) *Rangelands Journal* 24(1) 152-169 at 161 citing, Burrows, W, "Tree clearing - rehabilitation or development on grazing land?" (1999) *Proceedings of the VI International Rangelands Conference*, Townsville, Qld, 17- 18 July; Burrows, W, "Deforestation for pasture development - has it been worth it" (2001) *Proceedings of the XIX International Grassland Congress*, San Paulo University, Brazil, 10-21 February, 2001. Note, the legislation originally implied clearing down to 30% of production land area would be permissible development (Rolfe, p 154).

services or activities that contribute to building resilience across the landscape. Stewardship vouchers will also be exchangeable, allowing landholders who do not wish to use their vouchers to sell or donate their vouchers to any other landholder or nominated organisation (for instance, Landcare, NRM and local governments) operating in the same NRM region (see Figure 1).



In more detail, some specific features of this proposed scheme are:

1. The scheme will allow vouchers to be redeemed against the government when any products, services or activities identified on a list of eligible funding items have been completed. Some examples of products, services or activities that would be suitable for listing are identified in Schedule 1. It is envisaged that some eligible funding items will apply across the whole State whilst others could be tailored to specific NRM regions as identified by regional NRM bodies. This aspect of the scheme allows flexibility and regional autonomy.
2. Landholders who receive an Environmental Stewardship voucher will be able to use the vouchers to purchase listed products or services. The suppliers of those products and services will then be able to redeem those vouchers against the government. Alternatively, landholders may redeem the value of their vouchers directly against the government when any of the listed activities have been completed.
3. Landholders who do not wish to use their vouchers on any of the products, services or activities identified on the list of eligible funding items will be able to sell or donate their vouchers to any operator or nominated organisation within the same NRM region. These operators or nominated organisations will be able to redeem the vouchers when they purchase listed products or services or complete listed activities.
4. Vouchers will be distributed annually to eligible landholders. This is an ongoing scheme to support an ongoing need to build environmental resilience across the landscape.

5. Vouchers will have an expiry date – for instance, ten years from the date of issue – and only be for use within the landholder’s NRM region. These requirements will ensure that the benefits are dispersed across all regions and are used in a timely fashion.
6. Commercial forest operations will not be included in the scheme.
7. Landholders whose operations meet higher sustainability criteria, above and beyond the 20% minimum native tree cover threshold, could be allocated more or higher-value green vouchers. For instance, in Queensland, some landholdings have 50% or more native tree cover. These landholdings already contribute to biodiversity and carbon storage so these landholders could be allocated more or higher value green vouchers. Note, however, the vouchers would still only be redeemable in relation to *additional* environmental activities, products and services.
8. AgForce Queensland and the Land Management Alliance are developing a land certification methodology (AgCarE) that, among other things, measures the overall environmental sustainability of a farm business enterprise including its carbon emissions and maintenance of natural capital. Landholders who score highly with this method could be rewarded at the higher rate for green vouchers. Participation in any other comparable certification schemes could be similarly recognised and rewarded. This would help create an incentive for landholders to adopt and apply these methodologies and, in so doing, to fast track, for instance, to net zero emissions.
9. Any tree cover that already earns, or begins to earn, an income from another source, for instance, the Emissions Reduction Fund, should not be counted towards the eligibility criteria of 20% native tree cover.

This proposal outlines a simple, flexible and equitable approach to supporting the urgently required transition to sustainable and resilient land management. It is not directly pegged to environmental offsets or carbon credit schemes. Instead, it promises to operate across the whole landscape to hasten the realisation of sustainable land management goals. The comments below consider a number of collateral benefits flowing from this proposal and the economic justification for it.

Collateral benefits

The benefits of this scheme are not limited to promoting climate adaptation and resilience. Additional benefits include:

- **Transition to net zero emissions:** Many of the products, services and activities that could be listed as eligible items (see Schedule 1) serve to curb greenhouse gas emissions as well as build resilient landscapes. Offering a second tranche of more or higher value vouchers to landholders who meet high level sustainability criteria – such as net zero emissions– will help to incentivise a rapid transition towards these standards.
- **Tackling biodiversity loss and soil health:** This scheme provides an opportunity to build on the many synergies between conservation and production goals. For instance, high levels of biodiversity promote resilient farming by, among other things, reducing the severity of pest outbreaks. Healthy soils that are rich in organic matter enhance water retention and reduce flooding impacts downstream. Any measures that promote these sorts of outcomes serve the public interest, conservation and production goals.

- **Economic stimulus:** Vouchers will encourage the purchase of products and services and the completion of activities that may otherwise not be undertaken or be delayed for lack of financial capacity. Vouchers will also be exchangeable with the potential to harness additional private investment.
- **Building social capital:** Over the past forty years, economic liberalisation and declining terms of trade have left rural communities feeling isolated, marginalised and burnt out. Many rural communities are dealing with sustained population decline which confirms economic and social capital is steadily eroding. The proposed scheme will make a small contribution to stimulating local economies and it will also deliver more positive messaging about the future direction of land management. The proposal has been designed to ensure equity, self-determination and engagement – all measures that may help to build social capital and re-energise rural communities.
- **Political goodwill:** A recent ABC news article drew attention to continuing landholder opposition to regulatory constraints on tree clearing.⁴ This scheme is not a proposal for compensation. Nevertheless, it is a small measure that may help to build goodwill across the sector and re-focus debates on the value of native trees in the landscape for production and environmental purposes. It would reach an otherwise hard to access or influence segment of the landholding community and give them an opportunity to earn recognition and payment for their landscape management services.
- **Improved legal compliance:** This scheme will increase resources available to landholders to help them comply with the many laws that affect their operations, for instance, biosecurity and pest control.

Economic justification

Estimating a budget: The Natural Resources Inventory indicates that almost every local government area in Queensland has 20% or more woody vegetation overall. Whilst this no doubt includes considerable State owned forest resources, it is reasonable to assume that most or many landholdings will have 20% or more native tree cover. Far fewer will have 50% or more forest cover and fewer again will have an eligible accreditation status.

ABS data indicate that in 2018–19 there were 17,771 farms in Queensland with an estimated value of agricultural operations of \$40,000 or more.⁵ For the purposes of modelling, we could assume:

- 20% of these have less than 20% tree cover;
- 70% of these have 20-49% tree cover; and

⁴ Sullivan,K, “Farmers demand compensation for land clearing laws to meet Kyoto climate targets” 10/11/2021, ABC News. The article suggested governments’ failure to pay compensation for land clearing restrictions is a “festering sore, created by statutory theft” for many landholders. Available at: <https://www.abc.net.au/news/2021-10-11/farmers-demanding-compensation-land-clearing-laws/100528176>

⁵ <https://www.awe.gov.au/abares/research-topics/aboutmyregion/qld#agricultural-sector>

10% of these have 50% or more tree cover and /or eligible certification.⁶

Based on these nominal assumptions, under the proposed scheme:

12,440 farms receive vouchers to the value of \$4,000 pa = \$49,760,000 per annum

1777 farms receive vouchers to the value of \$8,000 pa = \$ 14,216,000 per annum

Total value of distributed vouchers to farms = **\$ 63,976,000** per annum

Some variables:

1. In Queensland 10,034 farms raise livestock including dairy cattle. This might be a more accurate reflection of how many farms actually have 20% or more native tree cover. Assuming the same ratios as previously (70% of these farms hold 20-49% tree cover; 10% hold 50% or more and /or eligible certification) then the total value of distributed vouchers is considerably less, approximately **\$36,000,000** per annum.
2. Across Australia, the average farm size is 4,331 ha. For an average farm, 20% native tree cover equates to 866.2 ha of native tree cover. For below average farms, instead of the minimum 20% tree cover a minimum cover of 850 ha could apply.
3. Not all landholdings operate as farms. Given the overall rationale of the scheme – to support the transition to sustainable and resilient landscapes – any landholding (excluding State land) that maintains a minimum native tree cover of 850 ha should be included in the scheme.
4. An upper level on eligibility could be used to exclude the largest landholdings and/ or enterprises. These entities are usually well capitalised and in a strong position to engage with alternative funding opportunities. For instance, as of 2018-2019, 17% of Queensland farms had an estimated value of agricultural operations more than \$1 million.⁷
5. There is authority suggesting overall on farm productivity increases – or is not impaired - up to a balance of 20% native tree cover in parts of Queensland but that, for many regions of Queensland, a greater tree cover would still be optimum.⁸ There are also many successful examples of permaculture systems with greater tree cover than 20% of the land. With further research, it might be possible to make a case for the basic threshold to be set at 30% tree cover instead of 20%.

How this policy budget compares with other initiatives: Although ambitious, this funding is comparable to the Queensland Government’s funding for the Land Restoration Fund (\$60 m for 2019-2020) and funding for the Great Barrier Reef Water Quality Improvement Plan (\$261

⁶ The actual proportion of farms that meet the two types of eligibility criteria are unknown to this author but should be easily ascertainable given existing mapping resources.

⁷ These farms accounted for approximately 61% of the total value of agricultural operations in Queensland.

⁸ Rolfe, J, “Economics of vegetation clearing in Queensland”, (2002) *Rangelands Journal* 24(1) 152-169 at 161 citing, Burrows, W, “Tree clearing - rehabilitation or development on grazing land?” (1999) *Proceedings of the VI International Rangelands Conference*, Townsville, Qld, 17- 18 July; Burrows, W, “Deforestation for pasture development - has it been worth it” (2001) *Proceedings of the XIX International Grassland Congress*, San Paulo University, Brazil, 10-21 February, 2001. Note, the legislation originally implied clearing down to 30% of production land area would be permissible development (Rolfe, p 154).

million over five years or \$52.2 m p/a for five years).⁹ While these programs are more targeted than the proposed scheme, the benefits of this scheme are that it is dispersed, inclusive and relatively cheap to administer and monitor. The conservation outcomes it supports will be more flexible, potentially more holistic and tailored to regional environmental contexts.

Another insightful comparison is with the New South Wales Government's five year investment of \$350 million (or \$70 million per annum) in its Biodiversity Conservation Trust. The Biodiversity Conservation Trust funds private landholders to protect and conserve natural values on their land.¹⁰

Other points to note:

1. Queensland's agricultural producers contributed \$12.9 billion to the economy in 2018-2019, with 88% of Queensland used for agriculture.
2. Rural and coastal Queensland provide a proportion of the \$28 billion tourist income, with coastal towns benefiting from hinterland environments.
3. The spot price for ACCUs is currently \$18 per tonne of carbon sequestered. A human induced regeneration project funded by the Emissions Reduction Fund may sequester up to 5 tonnes of carbon emissions per hectare and may therefore earn up to \$90 per hectare (or \$4,050 for 45 hectares of new tree plantings). By way of comparison, this scheme proposes the distribution of green vouchers to the value of \$4,000 for a minimum of 850 hectares of established native trees (c.f. 45 hectares).¹¹ These vouchers will then be used to engage in products, services and activities that will produce *additional* environmental benefits including additional carbon sequestration. In terms of environmental outcomes, the Scheme represents excellent value for money.
4. This scheme specifically targets small-medium sized landholdings. These landholders typically operate on tighter margins with less time, capital or opportunity to get involved in more complex incentive schemes. It fills a gap in the existing range of funding mechanisms.
5. Although a considerable budget outlay, the proposed scheme has minimal administration and transaction costs:
 - Landholders will not need to enter into a contract or commit to any particular project in order to receive their Environmental Stewardship payments. Provided they meet the eligibility criteria of 20% or more of their land under native tree cover, they will automatically receive their vouchers.
 - The State already maps and monitors vegetation cover so the data set for assessing eligibility and ensuring the basic threshold of 20% tree cover continues to be met already exists and is ready to go without any further methodological development.
 - The need for verification and compliance monitoring is also minimal – receipts for goods and services; a combination of before and after photos or satellite imagery;

⁹ The Department of Environment and Science's overall operational budget for 2019-20 was \$797 million including \$318.7 million for parks, wildlife and conservation services. See:

https://www.des.qld.gov.au/__data/assets/pdf_file/0024/80646/budget-highlights-2019-20.pdf

¹⁰ Over five years. NSW Government, *Biodiversity Conservation Trust*. See:

<https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/about-the-biodiversity-offsets-scheme/biodiversity-conservation-trust>

¹¹ There is a difference between sequestered carbon in new tree plantings and stored carbon in established tree cover. Established tree cover generally sequesters less carbon (perhaps only 1 tonne per hectare) than new tree plantings but *stores* substantial amounts of carbon (up to 50 tonnes per hectare).

a witness statement from a local public servant or proof of successful landscape management certification should suffice.

In short, the Environment Stewardship Scheme, as outlined in this proposal, offers a win for the environment, landholders, rural and coastal communities. It meets the criteria landholders look for: ease of administration; equitable access; flexibility and due recognition of landholders' positive environmental contributions including their existing and new commitments. For the government, the proposed scheme represents excellent value for money. It has the potential to deliver holistic, environmental outcomes across the whole landscape and to realise a number of collateral social and economic benefits.

Schedule 1: What actions promote climate resilience in the Australian landscape?

Although there is no clear rule book for climate resilient landscapes, in the Australian context, climate resilient models of land management commonly seek to promote maximum biodiversity; maximum soil moisture and water retention; maximum ground cover and minimum soil erosion. Building on these notions, the proposed Environmental Stewardship Scheme could fund a variety of products, services and activities that work towards these goals. Some examples are: fencing off riparian corridors and remnant bush; implementing soft erosion control measures; controlling feral animals and weeds; implementing small scale restoration and conservation projects; re-establishing areas of native perennial native grasses; additional tree planting etc. Products and services associated with these activities could be eligible for funding. A value could also be assigned to completing the activity in recognition of the work involved. These are only suggestions – the Scheme assumes local and regional organisations, such as NRM and Landcare groups, will work with State government to create regionally specific lists of eligible funding items. At a State-wide level, a case could be made for costs incurred in managing native vegetation for environmental purposes in accordance with the Native Vegetation (Accepted development) codes on the list of eligible items. Another state-wide refundable item could be the costs associated with applying for accreditation against relevant certification schemes such as the AgCarE certification scheme.

There is a risk that green vouchers may end up only being used for work that would (or should) be done anyway. This may be particularly so where there is a strong production benefit – for instance, if additional fencing to facilitate cell grazing is funded. To prevent the substitution of public finance for private investment, items that have a strong production benefit should only be partially financed by green vouchers – for instance, up to 30-40% of the cost. This will ensure private investment still occurs but that it is 'stretched' further to the mutual benefit of the public and private good. On the other hand, items which have a pure or heavy conservation focus could /should be 100% refundable up to the whole value of the vouchers available.

The fact that vouchers are exchangeable and valid for an extended period of time (suggested ten years) means aggregations are possible to help finance bigger, more expensive funding items.

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