Threatened Species Recovery Hub

National Environmental Science Programme

Conservation Opportunities Research-Summit Initial Report

April 2017

RMIT UNIVERSITY

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Front cover: Participants at The Conservation Opportunities Summit, RMIT. Image: David Salt

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Background and Objectives

Australia is home to some of the world's most amazing species, but the fate of many hangs in the balance. Preventing extinctions and recovering these species is vital to Australia's future health, social wellbeing, business and international standing, but this may well depend on cross-sector relationships and novel conservation approaches. Significant opportunities for conservation can arise from environmental, social, technological and economic change. To seize these opportunities, we need foresight about which trend will present in the near future, and cross-sectorial networks to ensure that opportunities are appropriately resourced and implemented.

This Summit brought together representatives from the research, government, business, NGO, Traditional Owner and philanthropic sectors (see Appendix 1 for participant list) to:

1. Identify emerging and novel opportunities for conserving Australia's most critically endangered species. This includes sustainable business opportunities that can deliver tangible biodiversity benefits, as well as new business opportunities that might arise from strategic biodiversity planning and conservation;
2. Proactively determine pathways for realizing those opportunities; and
3. Enable concrete implementation and facilitation of these opportunities through the development of new cross-sectorial networks and working relationships.

Dr Georgia Garrard, co-leader of Threatened Species Recovery Hub Project 6.3: 'Identifying better methods for communication and community buy-in to threatened species conservation', introduces the summit.

Brief synopsis and Immediate outcomes

Day 1

The workshop was opened by Threatened Species Commissioner Gregory Andrews, who provided an update of the Federal Government's fight against extinction as well as an introduction to the recently launched Threatened Species Prospectus.

Background information on Australia's most threatened species and emerging trends and issues in the international literature was provided in brief presentations by Prof Brendan Wintle and Dr Georgia Garrard.

Each participant provided an example of an emerging opportunity, and this list was expanded during subsequent discussions on the first day. The final list of 45 potential opportunities is provided in Appendix 1.

Potential opportunities were then evaluated in a rapid assessment process. Participants (in small, cross-sectorial groups, considered potential opportunities under the following headings:

- ***Opportunity:*** a brief description of the opportunity
- ***Benefit:*** Major benefits, including those to threatened species, business and society; description of the timeframe and scale at which benefits are likely
- ***Barriers:*** Identify the major barriers to this opportunity
- ***Enablers/Pathways:*** Identify the major enablers and pathways for achieving the opportunity
- ***Stakeholders:*** Identify the major stakeholders, including a potential leader for implementing the opportunity;
- ***Evaluation:*** Assessment of the relative benefit (primarily to threatened species) for effort expended.

Potential opportunities were prioritized; first, by individual groups and, later, through a vote cast by present participants. Raw information provided by participants for each opportunity during the rapid assessment are provided in Appendix 2.

Day 2

Individual opportunities were selected for further development based on: 1) their ranking in the previous day's voting; 2) the availability on Day 2 of a key 'leader' to push the project forward. [This means that some of the particularly popular opportunities from Day 1 were not further developed on Day 2 because the right expertise was not in the room.]

The objective was to develop a business case or action plan for implemented or acting on the opportunity, including consideration of:

- **The Vision:** What is the opportunity and why should anyone support it?
- ***Background:*** Relevant information including the current status, historical and policy contexts.
- ***Business Case:*** What is the product/opportunity? Who wants it?
- ***Targets:*** Including specific species, locations, business outcomes.
- ***Actions:*** What actions are required? By whom?
- ***Potential opportunities for Indigenous communities***
- ***Potential risks:*** What are the risks of failure? How can these be mitigated?

We developed these action plans for 4 potential opportunities, detailed below (raw information included in Appendix 3.)

Square brackets indicate additions made by workshop organisers after the event.

1. Totem species in schools

The Vision

The major vision for this opportunity is that every school in Australia adopts a 'totem' species [GG: is this a threatened species?], and that every school kid in Australia leave school with:

- A powerful connection to a totem species;
- An understanding of the cultural significance of the totem, and enhanced appreciation for indigenous culture;
- An enhanced exposure to and understanding of STEM (Science Technology Engineering & Maths); and
- A broader appreciation of the conservation of threatened species in Australia.

School yards may provide/enhance/restore important habitat for the threatened species or ecosystem.

Background

Human populations, and particularly children, are increasingly have less and less exposure to nature, in a phenomenon termed the 'extinction of experience'. Exposure to nature is known to deliver significant human health and well-being benefits, and improved cognitive development in children. This initiative would help enhance the delivery of these benefits to children, by ensuring that they are exposed to 'everyday nature' and nature play.

In addition, this initiative presents novel opportunities for habitat provision, taking advantage of the relatively large areas of land available in school yards.

Business Case

Conservation messages delivered to children and through active education are cost effective; they are the most likely to deliver change in attitudes. Totems are a good way of facilitating this type of effective engagement.

There is increasingly an emphasis on STEM education in schools and, in particular, more innovative ways of engaging kids in science.

There are a number of potential partners, including ASTA, GTVA, and Cool Australia, who could assist with the development of teaching infrastructure and ensure that the program is worked into the curriculum.

Additionally, other potential partners include Zoos Victoria or Taronga Zoo, Landcare, Caring for Country, CMAs, Department of Industry, ABC.

Targets

No targets were identified

Actions

1. Engage indigenous communities
2. [Engage potential schools]
3. Conduct a feasibility study for potential species
    a. Cultural
    b. Ecological

Potential Opportunities for Indigenous Communities

Identification of totems
Business and engagement opportunities
[Potential links with Caring for Country and getting back on country]

Other

No risks identified [Careful to avoid cultural appropriation?]
Potential for podcasts, books, partnerships.

2. Biodiversity Benefits from New/Retrofitted Infrastructure

The Vision

Explores opportunities for biodiversity outcomes associated with the development of new infrastructure or upgrade/replacement of existing infrastructure. The site chosen was Fishermans Bend, a planned new urban development in the centre of Melbourne. At this site, there is a need for the development of new infrastructure to mitigate the impacts of past land uses (site contamination) and support new urban development. Our vision is for urban development and infrastructure that uses nature-based solutions (urban greening, WSUD etc.) to:

- Remove historical industrial pollution;
- Promote human health and wellbeing through the provision of open green space and access to nature; and
- Provide habitat for native species and ecosystems, including those that are threatened.

This opportunity, if successful, would provide multiple core benefits, set the standard for sustainable and biodiversity-sensitive development and help maintain Melbourne's most liveable city status.

Background

Fishermans Bend is a 500ha site in inner Melbourne. There is a current development plan to accommodate 80,000 new residents and 60,000 jobs by 2050, on land which is heavily polluted/contaminated by decades of industry, and subject to flooding during extreme weather events.

The majority of the land is currently privately owned, and the land occurs within the municipalities of the City of Melbourne and the City of Port Phillip, both of whom are concerned about the initial plans. Because the land is zoned Capital City zone, governing body is the State Planning Minister. Planning for Fishermans Bend is led by the Fishermans Bend Taskforce (Places Victoria, DELWP, CoMelb, CoPP). Land bordering the Yarra River is owned by the Port of Melbourne, which was recently sold on a 50-year lease to a private consortium.

Business Case

This represents an opportunity for developers to improve their reputation in state of the art green development. An addition 'brand differentiation' comes from the provision premium quality living environments.

The proximity to green space would increase the value of the properties in the development, and natural features/infrastructure will reduce the urban heat island effect and flood risk in the new development.

This opportunity is based around the idea of embracing the natural environment, and working with it to develop solutions to multiple challenges (ie. resilience to extreme climatic events, improving liveability, and addressing threats to native biodiversity).

There are potential incentives associated with density offsets.

Targets

Target species include threatened species such as the Growling grass frog, several galaxid fish, the Altona skipper butterfly and potentially the platypus (which is not threatened, but locally rare in Melbourne).

There are also opportunities to target species with a capacity to re-engage urban residents with native biodiversity, such as butterflies that cross public/private open space boundaries, and high profile species (Like brolga?). [Potential Links to NESP CAUL Hub projects @ RMIT].

Actions

1. Address technical uncertainties: use of green open space and sustainable urban drainage systems to address land contamination, and provide effective habitat for native species, including those that are threatened.
2. Address planning uncertainties: how to create large, green open spaces on land that is privately owned.
3. Seek funding for (Lord Mayor's charitable fund?) and develop a costed proposal that addresses:
    - Cost of 'natural' habitat vs. concretized solution
    - Draws on case studies (eg. 4 top-notch wetlands developed in the ACT, and examples from the UK urban drainage projects)
    - Potential reporting mechanisms to promote environmental accounting (bigger than just this proposal). For example, Natural Capital Reporting and the Wentworth Group's system of national environmental accounts.
    - Links to Federal, State, local policy objectives
    - Potential financial rewards
4. Engage key stakeholders:
    - Fishermans Bend Taskforce
    - Developers (eg. Lend Lease)
    - State, local governments (CoPP, CoM)
    - Australian Climate and Health Alliance?
    - CFMEA
    - VicHealth

Potential opportunities for Indigenous communities

There are potential synergies with Caring for Country plan (currently underway as part of Taskforce's Revisioning process), and nature-based solutions that enhance biodiversity.

Other

A key risk was identified that relates to the period at which handover to local councils occurs. Councils demand easy maintenance options for public open spaces, eg. hard curbs. A potential solution is to create a levy or increased rates for body corporate to cover maintenance costs.

Symposium participants discussing emerging opportunities with business and social and environmental benefits.

3. Adopt-a-Species

The Vision

Corporations (eg. Qantas) take responsibility for saving Australian native species.

- Safeguarding the Spirit of Australia.
- Raising awareness of threatened species (ie. through voiceovers "We are currently flying over xxx IPA/ conservation reserve, where we are working with locals to increase populations of xxx (threatened species) by xxxx (removing feral cats/restoring habitat etc.)"

Background

Businesses like Qantas currently trade on the native species brand. Their brand is built on the existence of native species but they don't necessarily give back to biodiversity conservation.

This opportunity presents a way for these businesses to reach the heart and minds of the Australian public, and persuade them to support the business (ie. Qantas!) BECAUSE they are investing in the spirit of Australia.

There is some precedent for this – ie. Koala Mattresses. Trade on the koala brand, and donate a certain percentage of each sale to adoption of orphaned koalas.

Business Case

Brand recognition – creating a feeling in a consumer that puts Qantas at a competitive advantage.

This will help raise business profile and set Qantas apart as a unique provider.

There is the potential for the TS Commissioner to be an ambassador for the project and a great opportunity to link to primary schools through the totem species project (#1 above).

Targets

Biodiversity targets include rare kangaroos (Qantas logo) and migratory birds (flying long distances).

Measurable targets include:

- $ raised for conservation
- Number of programs implemented
- Change in brand loyalty

Actions

1. Market research:
    a. Does the Australian public perceive kangaroos as pests?
    b. Could they distinguish threatened species?
    c. How do Australians identify with wildlife? (eg. X% of Australians care about conservation)
    d. What % travelers repeat?
2. Other incentives/information
    a. Eg. kids packs on planes
    b. Real time messaging about Qantas conservation achievements
3. Stakeholder engagement:
    a. Qantas!!!
    b. [Koala mattresses
    c. Platypus Shoes
    d. Puma]

Potential opportunities for Indigenous communities

- Potential for projects/interventions to benefit IPAs
- Management of species generates employment
- Potential for increase in use of indigenous knowledge. Eg. fire, feral control.

Other

Culling programs may represent a marketing risk.

4. Reintroduction of locally-extinct species to Traditional Owner lands

The Vision

There is an opportunity for economic, cultural and biodiversity benefits arising from the re-introduction of culturally-important, but locally-extinct, native species on TO lands. In this case, the vision relates to the re-introduction of the emu onto Taungurung TO lands in NE Victoria.

Background

Traditional owners in NE Victoria are in the process of securing native title settlement over a large area, stretching from Broadford in the south to Shepparton in NW and Beechworch in NE. Includes National Park and Aboriginal tenured land.

Traditional owners are keen to re-introduce the Emu, a culturally-important but locally-extinct species. It is important for traditional owners to bring back multiple uses.

Business case

- Property purchase
- Potential location for breeding program
- Emu product development and cultural focus.

Targets

- Traditional owners are employed, self-generated income
- Emus reintroduced
- Traditional owners have access to traditional food and resources
- M & E around ecosystem improvement

Actions

1. Healthy country planning – identify locations with partners
2. Traditional owners collaborate with university researchers to develop appropriate breeding program.
3. Investigate and monitor mobility and issues associated with the mobility of the species
4. Obtain the necessary regulatory approvals
5. Traditional Owner M & E.
6. Market research – learn from past experience:
    a. What builds success? (including governance structures, product development (lots of failed emu farms – why?) etc.)
    b. Opportunities for value-added products
    c. Identify stakeholders and work with allies (eg. VNPA, native plants associations)

Opportunities for Indigenous Opportunities

See above

- On country
- Access to traditional food and resources
- Employment, self-generated income

Other

- Potential risks associated with the mobility of the target species causing conflict with neighbouring landholders.
- Potential risks associated with delays to the development of governance structures.
- Potential links with other NESP TSR Hub projects and discussions associated with the listing of culturally-significant species, not just threatened species.

Key Lessons Learnt

In the final session, participants were asked to reflect on the key lessons to come out of the workshop. The full list can be found in Appendix 4, however these are briefly summarized below.

Remain optimistic

New opportunities for threatened species conservation do exist, as evidenced by the number of really good ideas that emerged in the workshop. But success relies on cross-sectorial engagement and delivery, and it is important to engage key players early in the development process.

Engaging the business sector is/will be challenging

If we truly want to engage business, the value proposition is critical – we will need to work harder to demonstrate the relevancy and specific benefits delivered to business. Currently the market signals are not there (eg. carbon, natural capital, ecosystem services) to incentivize or reward conservation by business, nor are the regulatory mechanisms. But other incentives exist, such as enhancing the social licence to operate, risk reduction (therefore, insurance/financial institutions may be key allies), and opportunities for commodities suppliers to benefit from becoming the preferred supplier (eg. not necessarily more money, but more certainty). Smaller, shorter meetings with targeted businesses (and CEOs) will be necessary.

New systems are needed

We don't really yet have the right systems to measure:

- Value
- What interventions work
- How to measure and communicate success

There is no one-size-fits-all solution

A continual process of identifying novel mechanisms, value propositions and key players is inevitable. Furthermore, not all models are repeatable; some opportunities are a once-off – once that market/space is captured to one group, it is not available to others.

Do your research

Make sure you know what's out there already, learn from previous experience – what works, what doesn't and why. Pick your target carefully, get them involved/engaged early. One option may be to target businesses who are already engaging in voluntary certification schemes; in particular, those that are producing a commodity for large multi-national organisations with higher standards.

Next Steps

1. Follow up on promising opportunities (Please indicate if you would particularly like to remain involved in any of these projects, or any other opportunities listed in Appendix 1).
   a. ***Totem species in schools*** – RMIT, GG, SB, potential as part of NESP Project 6.3
   b. *Biodiversity sensitive drainage infrastructure in Fishermans Bend* – RMIT, GG, SB. The first step is probably to seek funding for a researcher to cost the proposal.
   c. *Adopt-a-Species* – RMIT, GG, SB, ???. Potentially put forward as a social marketing project.
   d. *Culturally-significant species on TO lands* – FVTOC, Mike Nurse
2. Consider more targeted meetings with business – NESP TSR, GG with guidance from Rosemary Bissett, Cassandra Nichols, Stuart Anstee.
3. Produce publications: *Emerging opportunities for threatened species conservation in Australia, and Opportunities to engage business in threatened species conservation* – ALL/Anyone who is interested.

The most promising concepts underwent more detailed development on the second day of the Symposium.

Appendix 1: Summit Participants

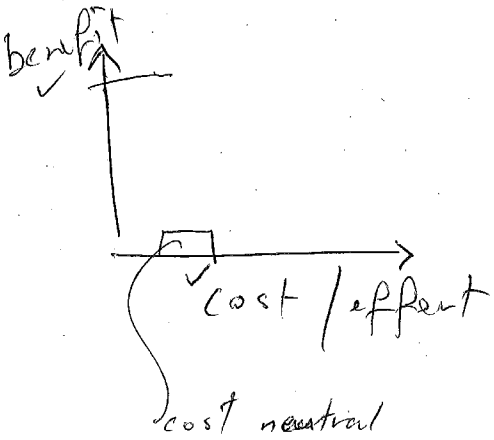
Name	Organisation
Georgia Garrard	NESP, RMIT
Sarah Bekessy	NESP, RMIT
Gregory Andrews	Threatened Species Commissioner
Stuart Anstee	Stuart Anstee & Associates
Louise Arkles	The Ian Potter Foundation
Linda Bell	NSW DEH
Rueben Berg	Facilitator, RJHB Consulting
Rosemary Bissett	NAB
John Clarke	Traditional Owner
Jaana Dielenberg	NESP
James Fitzsimons	The Nature Conservancy
Jennie Fluin	SA DEWNR
Richard Fuller	NESP, UQ
Ari Gorring	Kimberley Land Council
Cullen Gunn	Kilter Rural
Rachel Morgain	NESP
Adrian Moorrees	VIC DELWP
Cassandra Nichols	Earthwatch
Mike Nurse	Federation of Victorian Traditional Owners Corporation
James O'Connor	Birdlife Australia
Jamie Pittock	Australian National University
Doug Robinson	Trust for Nature
Dan Rogers	SA DEWNR
David Salt	NESP, Australian National University
David Shelmerdine	
James Watson	Wildlife Conservation Society, Univ of Qld
Vanessa Westcott	Bush Heritage Australia
Brendan Wintle	NESP, Univ of Melb
Rick Zentalis	Australian National University

Appendix 2 – List of identified opportunities for threatened species conservation

1. Local government rebates for land management and conservation
2. Horticultural plantations – feral free fences and biodiverse plantings
3. Totem species in primary schools – provision of new habitat, education opportunity
4. Adopt a species
5. Encouraging charitable donations to conservation programs
6. Working with traditional owners to conserve bilby populations and a range of other threatened species
7. Using offset money for long-term conservation programs
8. Capitalising on base funding from state gov through co-funding
9. Leveraging tourism opportunities – koalas
10. Biodiversity banking – leverage company logos to encourage investment in threatened species - Better ways to quantify and market co-benefits
11. Sustainable development goals – opportunity for biodiversity and business – quantifying co-benefits
12. Using skills of defence personnel to overcome emerging threatening processes on conservation land eg. Cat eradication
13. Co-manage areas for defence training and conservation
14. Integrating environmental strategies within corporate strategies which provide a return to investors
15. Horizon scan of change in agricultural sector to seek opportunities for conservation
16. Use climate change adaptation actities as opportunities to create biodiversity friendly infrastructure
17. Harness best and brightest social media stars to understand how we access broad audiences
18. investment fund to purchase land that can deliver competitive returns for investors and protected important conservation values on the property
19. Utilising the Connection between biodiversity and health
20. Local scale co-creation of recovery plans
21. Green prescription – utilising experience of retired experts
22. Mass participation in conservation experiences – educational, tourism etc. to create transformative experiences
23. Connecting with 4 million Australians who don't speak English at home
24. Restoration of 'upside down' country in Western Victoria
25. Bringing back culturally important regionally extinct species on traditional land
26. Nestboxes in urban areas for threatened species
27. Making money via ecotours for hunters – feral animals
28. Blitz media in threatened species week
29. Using donkeys to eat buffel grass in arid zone – harvesting donkeys – making money from problem species
30. Diversification in farming and indigenous land management sectors – eg nature based camping/tourism -
31. Opportunity of agri-environment schemes – improve productivity and enhance biodiversity
32. Trial re-establishment of dingoes on freehold conservation land.
33. Urban areas – bring biodiversity into urban landscapes, create habitat – market the co-benefits

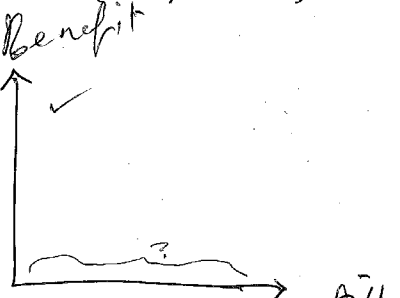
34. Rubbish dumps attract feral animals – reverse feral fence, one way gate and once trapped, eliminated by cat robots.
35. Stewardship funding – like the Tasmanian Midlands Conservation Fund
36. Environmental/social labelling and certification schemes
37. Payment for ecosystem services
38. Substitutes for harmful products and technologies
39. Urban planning – regulating greenspace provision/biodiversity
40. Environmental opportunities related to tax and finance policy
41. Capturing/selling the social benefit of conservation programs
42. Global trade and trade politics
43. Generating money through compliance to invest in threatened species
44. Reporting – disclosures around natural capital risks
45. Remote sensing technologies – citizen science

1. Local govt rebates. for land management of conservation

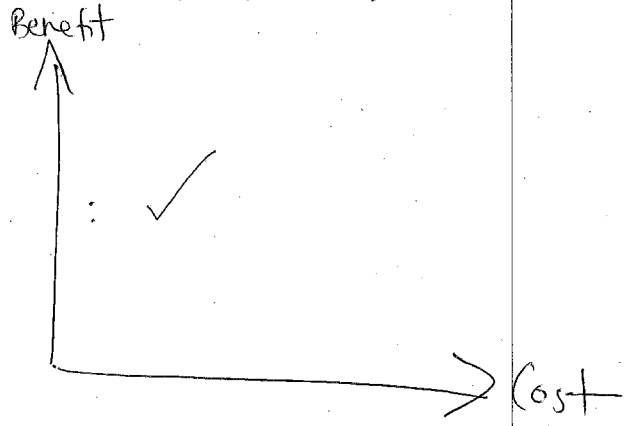
Opportunity	Benefit (timeframe, scale)	Barriers
• re direct existing local government rebates for (e.g.) .... switch to improving fences, remove invasives • not new money. not forfeiting revenue	• removal of competing sp... • immediate	- Council decision making - inertia & revenue scheme - socialisation around lost benefits
Enablers/Pathways	**Stakeholders** + Leader	**Evaluation (cost/benefit)**
• Build capacity around -reporting/monitoring... - measuring/mapping/identifying values. (biodiversity) • Celebrated example • Seek opportunities to avoid major losers.	Councils (talk to Home first) - NGOs	

2. Horticultural plantations (sustainable ag)

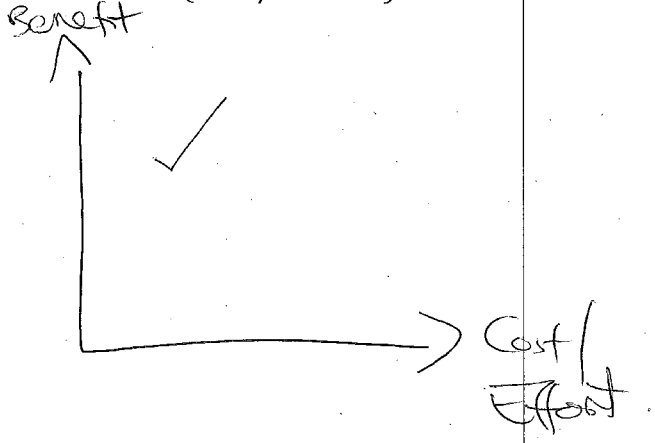
Boreal fruit fences & biodiverse plantings

Opportunity	Benefit (timeframe, scale).	Barriers
- Understorey biodiversity - ~~Reef~~ Diversify pollination source - fenced / well managed	- pollination - risk management - pred proof fence - premium for product - diversify income risk - draws on innovative ag practices - Carbon benefits - encouraging innovation - carbon sequestration - ecosystem services	- get the ecology right - fence = $ - knowledge - inertia reduction
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- convince the key consumers - ID the right farmers - exist growers - education / time Examples - Tiverton → ↓ intensity of Ag Key individuals → Commissioner	- NGOs - research - FARMERS - investors - Banks - consumers - ~~supplier~~ Supermarket - supply chain * Ferrero!	 Co-benefits - sustainable ag = food security

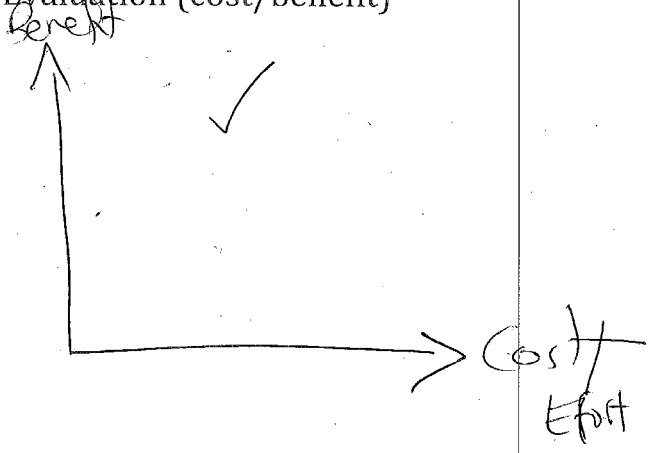
3. Totems in Primary Schools

Opportunity	Benefit (timeframe, scale)	Barriers
- Increase social license ... knowledge of biodiversity, Indigenous culture - Community ownership - Engage youth - ACT could be pilot.	- Community support - Behaviour change - Fundraising potential - Education	- P+C - Inertia - cultural.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- Environmental Commissioner - Curriculum - Professional Development for teachers. - P+C	- Education Dept - Science Teachers Assn - Teacher Union - Headmasters assoc - Indigenous groups	

4. Adopt a species

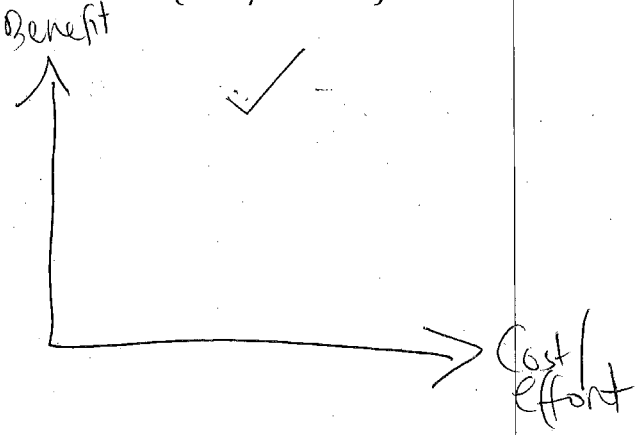
Opportunity	Benefit (timeframe, scale)	Barriers
- Grow funding for conservation. - flexible funding. - iconic species (with benefits to a whole range of others). - World Vision equivalent	- funding - awareness raising - umbrella benefits - gap filling - Recovery Plan.	- Competition for $$ - Limited Culture for donating to conservation NGOs. -
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- Trust establishment - Reporting back to donors.	- NGO - Business - Recovery Teams. - General public - Champion	

6. Improving conservation outcome/impacts measurements associated with ranger/land management payments

Opportunity	Benefit (timeframe, scale)	Barriers
- Increased recognition of TO land management achievements - better data for TS management - Effifient use of $$	- Social - TS conserv - ~~replica~~ replicable for multiple TS.	- inertia around policy change. - govt approval processes. - TO capacity to measure impact.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- no ask for new $$ - increasing bang for current $$ - policy bureacrats - NGOs - Case studies. - pilot conversations prior to next funding round - TO org capacity building - data collection	- NGO - Govt - Rangers	

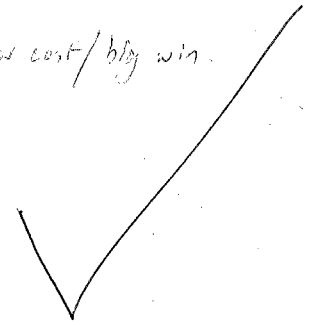
7. Better use of offset / compliance $$

overlap in 4.) 'Generating money through compliance to invest in the species'.

Opportunity	Benefit (timeframe, scale)	Barriers
Utilise offset/compliance funds to provide sustainable long-term funding (trust) for targeted TS projects.	- Ongoing secure funding - ~~Deterance~~ Deterrence - More jobs	- funding for compliance officer - lack of capacity - entrenched offset policy/regulations.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
Case studies - Spiny Rice-flower Gunduna Regional Conservation Trust organisation eg. Reef TRUST NESP-type model Cost for green tape captured in approvals process. — User pays.	- Recovery Teams. - Proponents. - Govt.	

8-11

Relationships w/ large landholders,
eg. traditional owners, defence, agricultural businesses

Opportunity	Benefit (timeframe, scale)	Barriers
- Indigenous communities - Long tenure - Large area - Potential partnerships - Aid opportunity. - Mixed biome coverage.	- capacity to combine economic and enviro outcomes eg TO employment - landscape scale mgt - integration - environment (not just threatened) spp - aligns w/ other initiatives eg PAN.	* funding / resources - mging across tenures. - ? maximise benefits / distribution / monitoring over time. * validation of outcomes → success mgt - political drivers (needed).
Enablers/Pathways	**Stakeholders / Leader**	**Evaluation (cost/benefit)**
- financial mechanisms - pilot projects/proof of concept - contracts / legislation ⇒ delivery certainty - regulatory mechanisms / CORs - social licence to operate.	- Govt / landholders / NGOs / TO / IC - Market	-low cost / big win. 

8-11. Engagement with P.S. Private sector

Opportunity	Benefit (timeframe, scale)	Barriers
– very large diversity of interests and intersect points. – significant financial upside. – once change occurs it becomes part of company DNA. – ~~workgroup~~ competion can be leaveraged to drive uptake. – generate a new business system or way of operating.	– generally long time frames. – work at multiple scales. – addresses root cause of some biodiversity loss. – creates a cultural shift and benifits.	- Institutional Inertia – competing drivers (cost, relation ship) – lack of internal capacity – project return accounting (NPV) – first mover blockage. – shareholders – sustainbility team separated from senior management (decision makers).
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
financial mechanisms. Regulatory mechanisms. social licence to operate. Investment community. supply chain drivers (certification)	Driver. (leader) - Industry (leaders) - Govt. - Finance sector. - investment community - Society (license to operate)	high benefit. → low to moderate cost. -

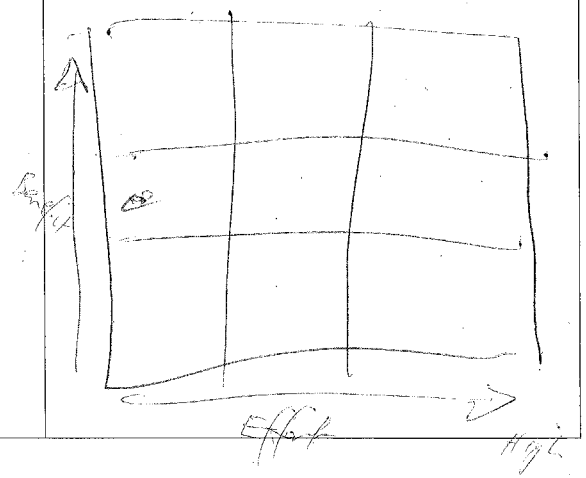
(16) Investing in threatened species conservation as infrastructure is upgraded to adapt to climate change

Opportunity	Benefit (timeframe, scale)	Barriers
Most infrastructure needs to be upgraded/ to manage changed hydro-climatic conditions with climate change eg floods – Water infrastructure: fish passage, thermal pollution control, flood plain re-linking. – Transport infrastructure: wildlife passage – Coastal infrastructure: ecosystem migration.	Incremental benefits/time Extensive scale of benefits – rivers (@300km per big dam) – wildlife corridors. – key coastal habitat. Very little/no additional cost. Replacement/upgrading initiates action Enhanced generation of ecosystem services.	Political will. Knowledge of decision makers Infrastructure owners will resist cost/investment.
Enablers/Pathways	**Stakeholders** / Leader.	**Evaluation (cost/benefit)**
Planning regulation on standard, better practices, eg. fish + wild life passage. Building code. Relicencing – cross compliance for upgrades. Set term licences. Soft/retreat climate change adaptation rather than hard/incremental adaptation.	Infrastructure owners: – water agencies. – transport agen – port operators Government: COAG/States Researchers – assessment. Fishing sector. Recreational users T.O.s.	

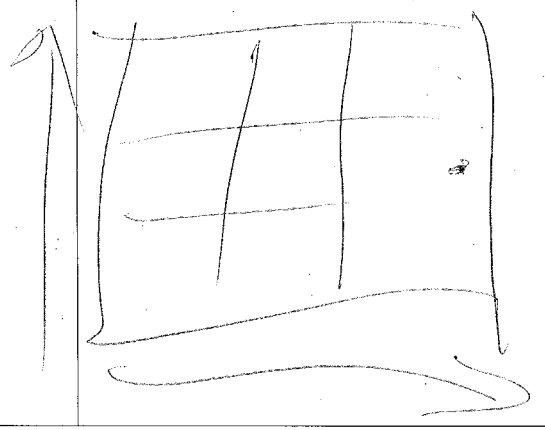
Volunteer writer/s: Jamie P Hack cost

17 – Social Media – The Spin Masters

'Harness best & brightest social media stars to understand how to access brand audiences'

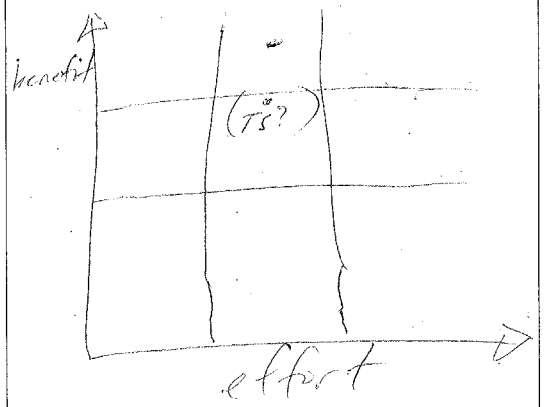
Opportunity - If done well, generate social licence for threatened species management to be a priority	**Benefit (timeframe, scale)** - 1 year for social media uptake - 1-10 years for translation to outcomes - national scale.	**Barriers** - Noise - What threshold amount of activity required to have an influence. - Translation to action?
Enablers/Pathways - Demonstrate high-flying social media - [illegible] social media strategy - Champions [illegible] - [illegible]	**Stakeholders** - youth - society - non-conservation sector.	**Evaluation (cost/benefit)** 

18 Land investment fund ☆
→ purchase land that can deliver competitive returns for investors & protect important conservation values

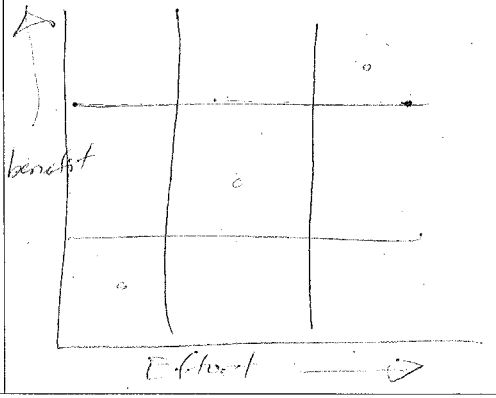
Opportunity	Benefit (timeframe, scale)	Barriers
☆ Large pool of funds	☆ Triple bottom line benefits ☆ Suitable properties in agricultural districts → Longer term	- Suitable properties ☆ Land use change → profitability → Climate change - Land availability
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
☆ Water fund as example - Open market	☆ Farmers - Investors - [illegible]	

19. Biod & health

Utilising the connection between biodiversity & health!

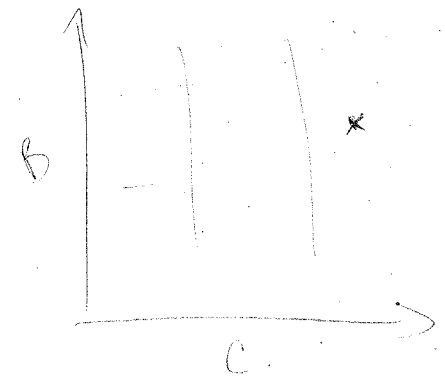
Opportunity	Benefit (timeframe, scale)	Barriers
- new funding sources - policy shift/change	- economic (health saving) - social impact (people healthier & happier) - more habitat for TS - 5–20 years	- connectn. with biodiversity not clear (could just be green space) - are there cheaper ways of promoting health, mental well being
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- research to benefit link - buy in from industry (health insurance) - case studies of success Parks Vic healthy parks ACT wetlands	- govt - health funds - public land managers - Soci~~etal~~ - beyond blue - trail owners	

20. local scale to create of recovery plans

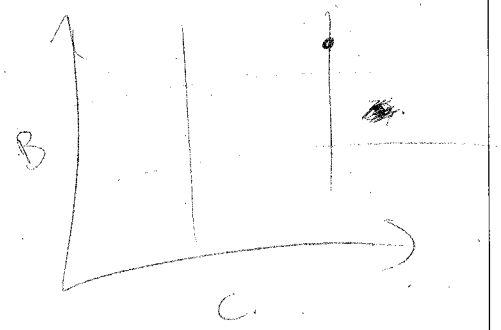
Opportunity	Benefit (timeframe, scale)	Barriers
- local ownership empowerment agency	- engaged local community - better habitat protectn (TS outcomes) - 1 year and up depending on scale	- some TS locations don't have people.. - requires constant effort because landowners frey change
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- need community champions	- govt. - local community - NGOs	

4 million

23. Engagement of [illegible]

Opportunity	Benefit (timeframe, scale)	Barriers
– greater reflection of society. – allowing willing demographic to partake. – cohesion.	– greater integration (socio) stronger united community. – awareness raising, potential behaviour change. – long term 5-20 yrs. – national, with regional actions.	– translation / cultural. – political sensitive... – funding.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
– local champions. – refuge settlement programs + multicultural programs. – TO's / land councils.	– Refuges, Indigenous communities, broader community – Govt. (local & state/federal) – NGO's.	

24. Restoration of upside down land.

Opportunity	Benefit (timeframe, scale)	Barriers
- restoration of cultural practices & enviro - combine western & traditional knowledge.	- local - central VIC (Bendigo) - socio - local indigenous engagement & learning. - economic - employment opportunities - cultural wellbeing - bringing to back to land. - food / fibre - natives back.	- lack of knowledge on restoration process - VIC heritage legislation. -
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- relationships with pot. partners inc # govt. -	- govt. - local indigenous groups - academics. - NGO's.	

MIKE NURSE (Coordinator of Vic. Trad. Owner Collaboration)

25. Bring back culturally important, regionally extinct species on traditional lands

Opportunity	Benefit (timeframe, scale)	Barriers
Bringing back culturally important regionally ~~extinct~~ species on traditional land. (e.g. dingoes (25) turtles)	• indigenous well being • sustained species recovery	• need to establish trust with T.O.s
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
• ~~meta~~ Healthy Country planning implementation supported as standard process.	T.O.s (lead) • land mgrs/owners • research sector	• process evaluation • ~~All~~ Medium-High effort • High Benefit

26. Nest boxes in urban areas for threatened species

Opportunity	Benefit (timeframe, scale)	Barriers
(DIY program) Nest boxes in urban areas for threatened species (26)	• community engagement (support) • wildlife public education • 're-wilding cities' • creating links between people & nature	• Legislative barriers • Lack of expertise • ~~Ecological~~ • Not [illegible] • Risk of ecological failure or adverse outcome/conflict. • Lack of ecological knowledge.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
• Business opportunity • existing models	• urban biodiversity organisations • residents • businesses • research sector	Low - Effort Benefit - Moderate

21 Tourism for hunters for feral animals

Opportunity	Benefit (timeframe, scale)	Barriers
Making money via eco-tours for hunters - feral animals (27)	• opportunity for TOs on country • bringing hunting community into [illegible] of conservation sector - (Number Pros)	• economic viability • feasibility of implementing • ecological impact - likely little low • regulatory barriers
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
• Partnership established between hunting groups / TOs to test	• recreational shooters • conservation organisation • state agencies • TO's	Effort - Low → Medium Benefit - Low for threat, but higher for comm. benefits → Medium

29. Using donkeys to eat buffel grass in central Aus
↳ harvest donkeys
↳ make money from pest species.

Opportunity	Benefit (timeframe, scale)	Barriers
Using donkeys to eat buffel grass (29) ↓ re-framed as / through market opportunity. • deriving economic benefit from ecological benefit from pest species & chain...	• fewer feral animals • helping provide business opportunity for land mngt (... → stewardship) • Low cost once started	• making sure the whole market chain works • feral animals removal will end income stream • unknown ecological / effectiveness • not targeted to threatened species

Enablers/Pathways	Stakeholders	Evaluation (cost/benefit)
• Govt support to kickstart. • Then move to private business. w/ (govt) legislation.	State agencies Industry Private landholders, TO. Entrepreneurs	Effort Med-High Benefit. Med-High Co-benefits more clear as others.

30. Diversification in farming of Indigenous land management

Opportunity	Benefit (timeframe, scale)	Barriers
Diversification in farming & Indigenous land mgmt sectors (eg tourism) (32)	• supporting landholder viability → stewardship • revenue stream for TOs to stay on country & manage for conservation • community benefit connecting people to nature	• not targeted to threatened species conservation • cultural change needed (to blend all) • start-up cost (but low)
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
• education of land mngr / training • start-up package • low cost model to set up camps	• landowners • TO • conservation businesses	Effort – Low Benefit – Low → Med (more benefits)

31. "Opportunity of agri-environment schemes to improve productivity & enhance biodiversity" (Dwyer)

Opportunity	Benefit (timeframe, scale)	Barriers
Opportunity to tailor agri-envt schemes to HLV/natural species needs. (31)	• targeted towards HLV/natural species • co-benefit. Top: more sustainable farming • ~~no~~ large-scale spread towards ~~the~~ improving agricultural matrix	• Lack of good evidence base/models • limited support from Coff. • Need PP to achieve • Inertia/resistance existing policy framework
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
• pilot program including research component • testing triple bottom line	• state govt agency • farming organisations • ACF type groups • Research sector • agri-businesses	Effort - Medium (ster) Benefit - High

32. Trial re-establishment of dingoes on fenced conservation land.

Opportunity	Benefit (timeframe, scale)	Barriers
– Put into practice research in an applied sense – Does it work? – Benefit small mammals?	– Long term? – Supress mesopredators. –	– Legislation – controversial – Farmers! – social opinions.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
– Trial in SA. – small properties. – NSW – reintroduction location – Electronic collars	– Academics – Farmers – local community * conservation Orgs/NGO – government	– unknown. – High cost, unknown benefit. ↓ could be big counter cost of fox + cat control.

3.4 Reverse trapping fence around rubbish dumps to catch, enclose, dispatch of feral cats

Opportunity	Benefit (timeframe, scale)	Barriers
- to eliminate feral predators around dump sites	- those near threatened species - Remnant bushland - Birds? - common species common	- costs - dead cats & dogs? - Lack of interest - mesopredator release
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- town councils - government	→	- $10,000 robots - fencing cost - one way gates

Environmental/social labelling & certification schemes

Development use of substit

Opportunity	Benefit (timeframe, scale)	Barriers
- Environmental / social labelling & certification schemes. - join fairtrade movement or vegan / social justice.	- marine / forest - long term if succesful - incentive scheme for people to do the right thing rather than regulation social license - public can contribe actively to conservation	- ~~con~~ motivation? - political climate - costs of schemes - will product quality be effected - business open mindedness
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- business intiative - government enforcement - public pressure	- businesses - Farming + rural industries - Forestry - mining	- short term costly but long term benefit - heavy resources to convince public - Self sustaining if established/enforced

38

'Substitutes for harmful products & technologies'

Opportunity	Benefit (timeframe, scale)	Barriers
- reduce harmful products & technologies that harm species e.g plastics.	- Species specific benefits hard to identify - improve ecosystem health. - reduce pollution. - human health benefits.	- identify economically beneficial products - companies need to transition. - what species are being effected?
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
- business - consumer behaviour	- cafes/restaurants - manufacturers. - public. - Local community	- high benefits if cost can be reduced - requires technological innovation.

31. Urban planning regulating greenspace for biodiversity

Urban planning – regulating greenspace.

Opportunity protect through planning system. maintain + improve green spaces. could provide habitat for T.S.	Benefit (timeframe, scale) *public experience of nature inc through "other" activities	Barriers pressure from landholders + developers. demands from comm. groups
Enablers/Pathways State/Territory Govt planning system + policies	Stakeholders S/T Govt local govt landholder comm. groups.	Evaluation (cost/benefit) benefit – moderate. effort – high.

10. Environmental opportunities related to tax & finance policy

Opportunity	Benefit (timeframe, scale)	Barriers
Environmental opportunities related to tax & finance policy.	provide tax breaks (offsets) for habitat protection	budget/revenue impacts. complexity of assessing value of action
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
env. accounts.	A.G. — lead. landholders/farmers. farming groups.	benefit = high effort = high

4.1 Capturing/selling the social benefit of conservation programs

Opportunity Capturing/selling the social benefit of conservation programs.	**Benefit (timeframe, scale)** → broaden support for programs. → expansion of programs. → ↓ costs social health ↑ social health outcomes.	**Barriers** ↓ cost + time to substantiate benefits
Enablers/Pathways → connecting health + welfare groups with conservation groups (research + program delivery)	**Stakeholders** Govt agencies. Research bodies. Ind. communities Rural " Cons. groups. GPs	**Evaluation (cost/benefit)** benefit = high effort = moderate to high.

#3 Generating money through compliance to invest in threatened species

Opportunity	Benefit (timeframe, scale)	Barriers
Generating money through compliance to invest in thr species.	Provides source of revenue Provides "line a sight" bt. breach + benefit.	Revenue retention – not favoured by Treasuries. Risk – withdrawal of original funding.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
Govt agreement to direct fine revenue	Govts. inc Local govt. conservation groups.	Benefit = moderate/high* Effort = low / high* * if coupled with intensification of compliance effort.

49. 'Reporting – Disclosures around natural capital risks'

Opportunity	Benefit (timeframe, scale)	Barriers
Reporting – disclosures around natural capital risks / losses.	– transparency corporate – feedback to behaviour	– robust frameworks for accounting.
Enablers/Pathways	**Stakeholders**	**Evaluation (cost/benefit)**
1. Δ corporate reporting standards 2. improving accounting frameworks. 3. simple apps for consumers (to compare impacts on nature)	– business community. – corp. regulators. – govt – consumers – cons. groups.	benefit = high. effort = high.

45. Remote sensing technologies, incl citizen science

Opportunity Technological advances ~~Remote~~ eg. remote sensing, drones, citizen science. surveillance cameras	Benefit (timeframe, scale) - cost savings. - better intelligence. - ↑ comm. awareness → apps.	Barriers - privacy? - up front cost. - skills – use – data analysis. - data management/ aggregation.
Enablers/Pathways - engage with smart young things. - competitions/seeding grants. - horizon scanning	Stakeholders - govt agencies. - tech companies. - community groups	Evaluation (cost/benefit) Benefit = high Effort = moderate.

4.2

Opportunity Global trade + trade politics	Benefit (timeframe, scale)	Barriers
Enablers/Pathways	Stakeholders	Evaluation (cost/benefit)

2). 'Green prescriptions' utilising the experience of retired experts'

Opportunity – Network of experts to deliver	Benefit (timeframe, scale)	Barriers
Enablers/Pathways	Stakeholders	Evaluation (cost/benefit)

Appendix 4 – Detailed worked examples of key opportunities

Zoos Victoria / Taronga Zoo

Potential funders – Dept Industry
– Mfg Company

– Podcast
– Books
– Partnership with ABC

Totem species in Schools

Vision – What and why? School adopts 'totem' species Every school kid in Australia learns school with a totem that ① Feel powerful connection to totem ② Understand cultural sig of totem ③ Enhanced STEM ④ Broader appreciation of conservation of TSP in Aust. School yards deliver habitat for threatened sp / ecosystems. ⑤ Indigenous cultural appreciation + inclusion.	**Background** – policy context, history, current status etc. – delivery of 'engaging nature' – nature play – novel apps for habitat provision	**Business case** – what's the product/opportunity? Who wants it? – Conservation messages thru education most cost-effective + likely to deliver change in attitudes – STEM – more innovative ways of engaging kids in science – Partner with ASTA, STVA, Cool Australia] easy to set up infrastructure – Partner with Landcare, CFA Comty, CMA plans
Targets – species, business outcomes etc. –	**Actions** required, by whom? – Engage Indigenous communities – ~~Ecological assess~~ – Assessing study species * Cultural * Ecologically	Potential opportunities for **Indigenous communities**? – Identification of totems – Business / Employment opp

Risk –

Vision – What and why?	**Background** – policy context, history, current status etc.	**Business case** – what's the product/opportunity? Who wants it?
Targets – species, business outcomes etc.	**Actions** required, by whom?	Potential opportunities for **Indigenous communities**?

Vision – What and why?	**Background** – policy context, history, current status etc.	**Business case** – what's the product/opportunity? Who wants it?
Targets – species, business outcomes etc.	**Actions** required, by whom?	Potential opportunities for **Indigenous communities**?

Adopt a species

Vision – What and why?	**Background** – policy context, history, current status etc.	**Business case** – what's the product/opportunity? Who wants it?
– Qantas responsible for saving Australian species – ~~Defends~~ Safeguarding Spirit of Australia	Reg of Tsp. → Way for you to reach ♡ + minds & provide support of Qantas BECAUSE living in spirit of Australia!	– Brand recognition → creating a feeling in a consumer that puts Qantas in a good place. – Raise profile – Unique – Could be rare kangaroo Could be migratory birds – Commissar artwork color – Link with primary schools "We are flying over XX IPA where we are currently investing in saving
Targets – species, business outcomes etc.	**Actions** required, by whom?	Potential opportunities for **Indigenous communities**?
– $X raised for conservation – Number of programs implemented – Measurable results – ↑ brand loyalty –	– Market research ↳ ~~Does~~ Does the Aussie public perceive kangaroos as pests? ↳ Could the distinguish tsp? "Do you know lots of kangaroos?" "How Aussies identify with wildlife?" eg. 75% of Australians care about conservation – What % travellers repeat? – Kids packs on plane	– Projects IPAs – Management of species generates employment – Tie, final control,

+ Risk – Culling programs → market risk

Adopt a species.

Vision – What and why? Qantas companys adopt a species campaign for environment day School adopt a species for # spend x time fundraising. species focus engaged with cause.	**Background** – policy context, history, current status etc.	**Business case** – what's the product/opportunity? Who wants it? -Spirit of Australia
Targets – species, business outcomes etc.	**Actions** required, by whom? -Market research.	Potential opportunities for **Indigenous communities**?

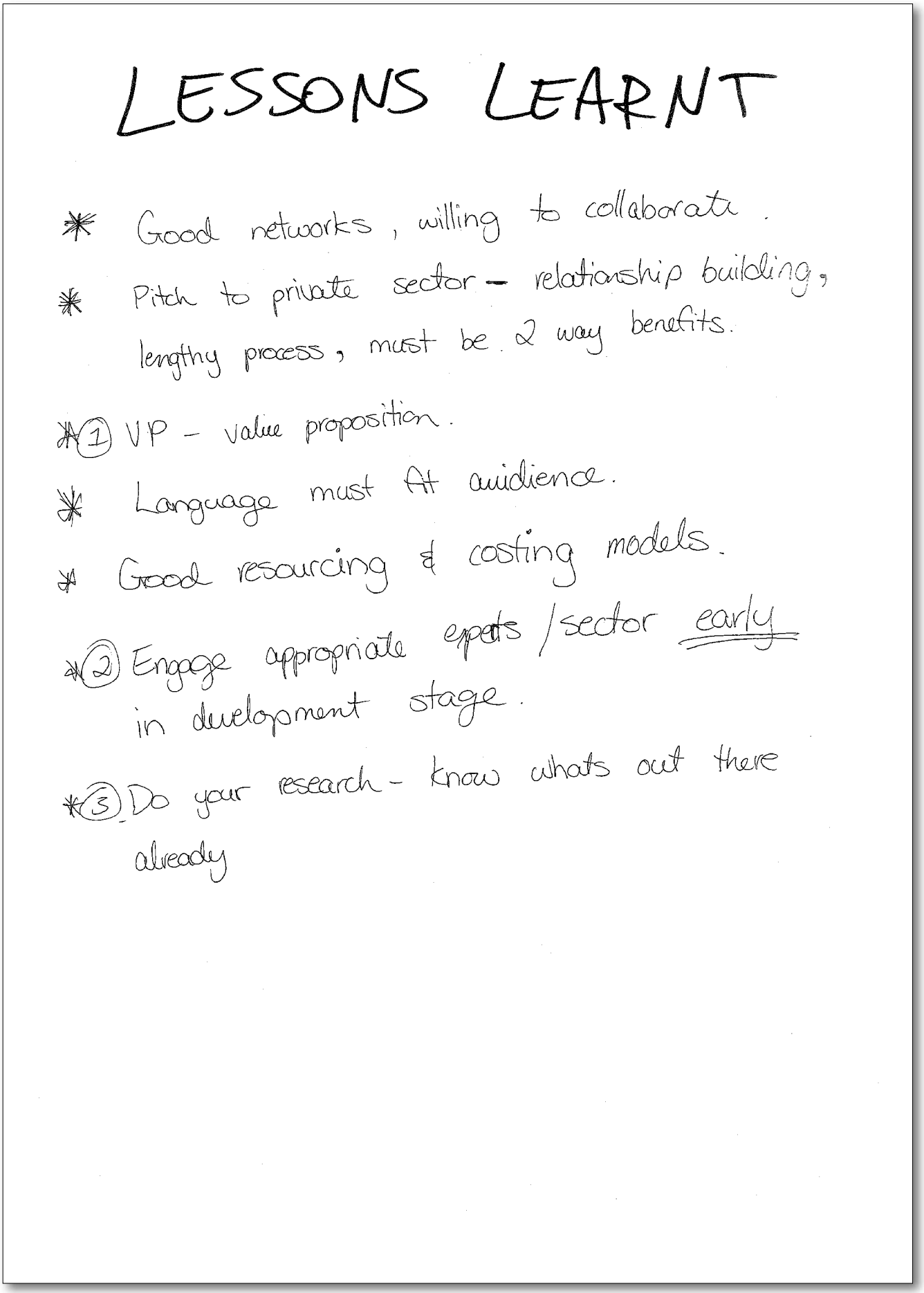
Th

Emu reintroduction.

Emu re-introduction into TO lands in Northern Vic

Vision – What and why?	Background – policy context, history, current status etc.	Business case – what's the product/opportunity? Who wants it?
	20% Vic + Native title settlement lands – National Parks – degraded / Aboriginal tenure + Re-introduce Emus + important for TO's to bring back multiple [illegible]	– Property purchase → location for breeding program → emu product development [illegible] cultural focus.
Targets – species, business outcomes etc. x [illegible] self-determination x 1 [illegible] [illegible] [illegible] [illegible] programs – [illegible] access to traditional food resources x [illegible] [illegible]	**Actions** required, by whom? – healthy country planning – id locations with partners – TO's + [illegible] research breeding program [illegible] approvals – Monitoring [illegible] – [illegible] MU [illegible] – identify [illegible] [illegible]	Potential opportunities for **Indigenous communities**?

Appendix 5 – Key Lessons Learnt



LESSONS LEARNT

→ Bottom line is profit.

→ Business case needs to stack up.

→ Working examples are missing.

→ Pitch to business

→ Regulatory back-up ~~nee~~ not necessarily there.

→ Market signals not there.

→ Need to work harder to ~~dem~~ build incentives – ↓ risk of delays.
– securing markets thru preferred suppliers.

→ Good science - evidence for change.

→ Market research

→ Policy certainty

→ Value propisition demonstrated.

→ ESTablish value of natural capital – M+E

→ Brand reputation & value proposition.

→ Relationships – Target the Boss.

→ Cultural Keystone Species great way of bringing Stakeholders together.

→ Community awareness = action & mobilises investment

→ Measure success.

LESSONS LEARNT

* Do's

(2) -> OPPORTUNITIES EXIST - NUMBERS OF POSITIVE WINS.

-> UNDERSTANDING THE AUDIENCE / GET THE PITCH RIGHT.

-> RECOGNISE VALUE TO BOTH/ALL PARTIES INVOLVED.

-> NOT LIMITED TO ENV - BROADER - HEALTH, WELLBEING - MULTIPLE PATHWAYS TO GET OUTCOME SOUGHT.
e.g. Health + Climate + Cultural

(1) -> CROSS-SECTORAL DELIVERY = SUCCESS. DEPENDS ON MULTIPLE PLAYERS.

-> MEASURE IMPACT - SHOW IMPROVEMENT.

-> UTILISE THE BUZZY + CUTE TO DRIVE OTHER PROTECTION OPPORTUNITIES.

CHALLENGES

-> ENGAGING BUSINESS

-> CLEAR BUSINESS CASE REQUIRED

-> RISK AVERSION

-> NOT ALL MODES ARE REPEATABLE
SOME ARE ONCE OFF - ONCE SPACE IS CAPTURED BY ONE GRP - ITS LOST TO OTHERS

-> SOCIAL & POLITICAL LICENCE / WILL
HOW DO YOU GET PEOPLE TO CARE

Further information:
http://www.nespthreatenedspecies.edu.au/

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Australian Government

Threatened Species Recovery Hub

National Environmental Science Programme