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Evaluating business investment in biodiversity conservation

Final Report

Department of the Environment

Please note: Parts of this report have been edited by the Australian Government Department of the Environment and Energy prior to its release. These edits do not affect the outcomes or findings of the report.

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Executive Summary

Despite the best efforts of public land managers across Australia, biodiversity loss and management remains a pressing concern for the Australian Government and society more broadly.

In recent years, investments in biodiversity conservation have extended beyond public ownership and provision of assets to a growing suite of tools covering both public and private tenure. A range of market based instruments (MBIs), including reverse biodiversity auctions, biodiversity offsets and revolving funds have been employed to extend the reach of biodiversity activities onto private land, and engage the private sector in conservation investments.

Many Australian businesses and other entities undertake investments that support, protect or create biodiversity. They do so for a number of reasons that support their business activities – some directly financial, and others more broadly supporting their social licence to operate.

The purpose of this study is to explore these investments in biodiversity conservation by business entities, understand the different drivers producing the investment, and where applicable explore the returns to the investment in financial terms.

This was undertaken through:

- a review of literature relating to business investments in biodiversity;
- targeted consultation across business, NGOs and academia in Australia and internationally; and
- the development of nine case studies of Australian investments in biodiversity

The case studies are illustrative of the drivers and returns from biodiversity conservation investments by private agents, but not necessarily representative of all Australian businesses.

Please Note: The case studies contain commercially confidential information and therefore they have not been included in this publication.

Key findings of this project can be summarised as follows:

- No central collection of data on private sector investments in biodiversity conservation by Australian businesses exists. In most cases, the relevant data is retained by the businesses and is considered commercially sensitive information.
- A number of drivers exist for these biodiversity investments, and direct financial return tends to be related to those businesses that have a direct relationship with the biodiversity they are investing in (such as tourism operators and fisheries sectors).
- Social licence to operate (SLO) investments are undertaken more often by firms that are seen to profit from resource exploitation either directly or indirectly and are crafted with a focus on the credibility of the investment (often being associated with NGOs and other trusted organisations).
- SLO investments may be more relevant to the Department, as they can be flexible in location and type in comparison to those investments made by businesses in their own area of operation.
- Financial instruments motivating biodiversity investments from the private sector are in their infancy and are likely to develop significantly in coming years.

The businesses examined in developing this report bear out a range of investments in biodiversity, usually driven by a mix of drivers. While by no means a census of investments in biodiversity, our

research for this study suggests that investors tend to be industry leaders with social licence to operate present as one of the investment drivers.

The implication for the Department of this work is that any implicit or explicit assumption that a measured financial return is always expected from financial investments in biodiversity is unfounded. While a financial return is broadly expected for some types of investment, in general investors tend to seek credible, meaningful investments that align with their company values and their area of activity.

1 Introduction

The Commonwealth Department of the Environment (DoE) engaged RMCG to undertake a study exploring the return on business investment in biodiversity conservation.

Many Australian businesses and other entities undertake investments that support, protect or create biodiversity. They do so for a number of reasons that support their business activities – some directly financial, and others more broadly supporting their social licence to operate.

This study sought to explore these investments in biodiversity conservation by business entities, understand the different drivers producing the investment, and where applicable explore the returns to the investment in financial terms.

We reviewed the literature relating to business investments in biodiversity, including literature from the businesses themselves, from non-government organisations (NGOs) who work with and solicit funds from businesses, and from the academic literature relating to the economic value of biodiversity conservation.

We combined this literature review with targeted consultation across business, NGOs and academia in Australia and internationally. The consultation enabled us to:

- Explore and understand how these investments occur in practice
- Challenge and confirm findings from the literature, and
- Identify case studies of Australian investments in biodiversity conservation.

The remainder of this report is as follows:

- Section 2 provides results from the literature review and consultation
- Section 3 provides key findings for the Commonwealth

2 Literature and consultation review

This section summarises the literature surrounding the financial return on investment to businesses investing in biodiversity conservation. The purpose of this work is to identify guidance on the drivers for business investment in biodiversity conservation, explore the types of investments typically made, and the literature outlining the financial return to investment.

2.1 Literature on investments in biodiversity conservation and financial return

There is plenty of literature produced by businesses, NGOs and practitioners in conservation asserting a high value to businesses in investing in biodiversity conservation and broader business sustainability. Often, this literature suggests that current business methods that produce net costs to the environment are unsustainable both environmentally and financially. For example:

> *The future shock for business is the potential for profit to be wiped out as natural capital is internalized through regulation and markets… Companies who act now to future-proof themselves are best positioned to manage and thrive in a resource-constrained* world*. They will mitigate risk, secure their resource supplies, create long-term value and enhance their resilience, reputation and competitive advantage.*
>
> *…The business case for integrating natural and social capital is clear for reasons of risk mitigation, securing resource supply, resilience, maintaining a licence to operate, reputation, profitability and long- term value creation.*[1]

However, beyond this broad relationship between environmental performance and risk, no concrete data is provided in this literature on the financial return to this risk mitigation to the business as a whole.

There are a number of examples of cost-effective actions undertaken by international businesses relating to general sustainability performance. For example:

- The Dow Chemical Company's decision to implement a constructed wetland instead of an effluent treatment plant was explored in the peer-reviewed literature, finding *Net Present Value* (NPV) savings of $US282 million over the project's lifetime. The project also identified a wide range of non-financial biodiversity benefits.[2]
- More broadly, Dow announced in April 2015 that meeting their corporate sustainability goals will deliver $1 billion in cost savings or new cash flow by 2025. The announcement states that its 2005 environment, health and safety goals resulted in $5 billion in safety, waste, water and energy savings following a $1 billion investment.[3] Details of this financial assessment are not provided and are not independently verified by the project team.
- Major British multinational retailer Marks and Spencer estimate their Plan A (now Plan A 2020) sustainability programme as delivering financial savings of £465 million ($US701million) as well as pointing to related benefits including staff motivation, brand enhancement and supply chain resiliency.

[1] Maxwell, D. 2015. Valuing Natural Capital – Futureproofing Business and Finance. Published by Dō Sustainability
[2] DiMuro, J. et.al. 2014. A Financial and Environmental Analysis of Constructed Wetlands for Industrial Wastewater Treatment. In the Journal of Industrial Ecology, Volume 18, Issue 5, pp631-640.
[3] http://www.environmentalleader.com/2015/04/15/dow-expects-1bn-cost-savings-by-valuing-nature-in-business-decisions/ Accessed 4 June 2015.

- A meta-study of 180 previous studies found that high sustainability performing companies outperformed low performers in the stock market over an 18-year period[4].

It must be noted that details on these investments and the estimation method calculating their financial return are scant. The Dow wetland example is one of very few in the peer-reviewed literature, and another is the well-known Catskills water quality example summarised in Section 2.3.2.

What is evident from the literature, and supported by consultation is that those investments that produce a rigorous quantified financial return tend to be those with a direct relationship between the business activity and the biodiversity they invest in. For example, tourism businesses investing in biodiversity conservation of sites they visit, or fisheries that invest in the environmental health of their direct environments. This is perhaps because the direct relationship with biodiversity provides the business with a clear financial incentive, and because measuring the financial return is feasible in those contexts.

However, there is another driver for investments in biodiversity conservation that is not associated with a quantified financial return, but is equally worthy of consideration in this study – the social licence to operate.

2.2 Social Licence to Operate (SLO)

The social licence to operate (SLO) refers to the level of acceptance or approval by communities and stakeholders of companies and their operations.[5] The level of support acceptance or approval is considered to be dependent on society's expectations about how the company conducts its operations and the extent to which those expectations are met.[6]

Community expectations can relate to the social and environmental impacts of a company's operations, as well as perspectives on the benefits associated with the enterprise that flow to the local community and the region.[7]

SLO is a concept born in the resource sector that has evolved out of the broader concept of Corporate Social Responsibility (CSR), and is of particular attention to companies that profit from extractive activities and/or can be associated with social impacts.

The Australian mining industry and extractive industries more broadly focus considerable attention and weight on developing and maintaining their social license to operate. The Minerals Council of Australia Enduring Value policy states that the Australian minerals industry strongly supports the role of a 'social licence to operate' as a complement to a regulatory licence issued by government. Unless a company earns that licence, and maintains it on the basis of good performance on the ground, and community trust, there will undoubtedly be negative implications.

SLO is also of relevance to agricultural activities and companies that are one step removed from extractive activities (such as the finance sector, and business that use primary products in their manufacturing). Most major resource companies now have clear and explicit policies on SLO.[8]

[4] Ecceles, R. et al. 2012. Harvard Business School and London Business School, May, The Impact of a Corporate Culture of Sustainability on Corporate Behavior and Performance
[5] http://www.miningfacts.org/Communities/What-is-the-social-licence-to-operate/
[6] Gunningham N, Kagan RA and Thornton D (2004) Social Licence and Environmental Protection: Why businesses go beyond compliance. Law and Social Inquiry 29 (2), 307–341.
[7] Nelsen J and Scoble M (2006) Social Licence to Operate Mines: Issues of Situational Analysis and Process: Department of Mining Engineering, University of British Columbia, Vancouver.
[8] For example: http://www.riotinto.com/sustainabledevelopment2013/_pdf/rio_tinto_2013_sustainable_development.pdf

The literature on SLO notes that it developed as a risk management concept, framing community stakeholders as a 'risk' to be managed.[9] Actions to mitigate this risk are seen to affect the company's profitability directly, for example through reducing delays in production; or indirectly, for example through boosting its reputation or avoiding more strenuous regulation.

The literature argues that these risks and responses tend to result in 'beyond compliance behaviour'.

However, critically for this analysis, the literature is effectively silent on measuring the value of SLO investments in the context of their return as a risk management tool. It is likely that this is due to the fundamental challenges of quantifying the risks associated with a social licence, and measuring the change in this risk associated with an investment in biodiversity.

It is also worth noting that biodiversity investments made to support a social licence to operate form part of a company brand – quantification of its financial return to the business may undermine the objective of the original investment. This is because community perception that the motive for the investment is financial may erode the social credibility the company is attempting to establish by the investment.

Our consultation for this study confirms the findings of this literature. The experts in academic and business fields that we spoke to acknowledge the absence of data underpinning assertions of the value produced by SLO investments in biodiversity. Relevant contacts in companies that have made laudable investments in biodiversity conservation for SLO reasons confirmed that no quantitative assessment of financial return was made to justify the decisions.

The implication for this study, of this research, is clearly that searching for the financial return on investments in biodiversity conservation made for SLO reasons is likely to be fruitless.

Our research found companies are prepared to invest considerable resources (both financial and in-kind) in SLO focused biodiversity initiatives. Importantly for the Commonwealth, mining company biodiversity conservation investments aimed at generating SLO are always in addition to a company's biodiversity compliance obligations.

These investments can be very high value. In order to achieve their objectives, SLO projects need to be transparent and very credible. Stakeholder perceptions of the projects are positively influenced by the size of the investment coupled with the rigorous project selection process and then high focus on delivering measurable conservation gains.

Quantification of the financial return on biodiversity investment by business is best focused on those who derive a direct or indirect 'use value' from the biodiversity their business depends upon.

2.3 Frameworks for contextualising investments

There are two useful frameworks identified in the assessment literature that can guide our thinking on the measurement of value derived by private investors in biodiversity conservation. The first is the ecosystem services framework, which seeks to identify the different benefits that flow from biodiversity and other components of ecosystems. The second is the Total Economic Value (TEV) framework, which is used in the quantification of monetised value of those services.

We discuss these in turn.

[9] Owen JR and Kemp D (2013) Social licence and mining: A critical perspective. Resources Policy 38(1), 29–35.

2.3.1 An Ecosystem Services framework

Ecosystem services are benefits that humans obtain from ecosystems. Categorisation of these services provides a useful framework for ordering the types of benefits that are sought for quantification in this study.

The Millennium Ecosystem Assessment[10], outlines four categories of ecosystem services, namely:

- **Provisioning services**, which are products obtained and extracted from ecosystems, including fresh air and water, raw materials such as timber, medicine and game
- **Regulating services**, which are the benefits to humans obtained by the regulation of ecosystem processes such as carbon sequestration, air and water treatment and pest control
- **Supporting services**, which are services necessary for the production of all other ecosystem services such as nutrient cycling, soil formation, and provisioning of habitat
- **Cultural services**, which are non-material benefits received by people through interactions with protected areas such as spiritual enrichment, recreation and education.

Clearly, a single ecosystem will provide a range of services that may have a financial value. Different business also engage with ecosystems (and specifically biodiversity) in different ways:

- Extractive industries such as mining and forestry benefit from provisioning services, and their activities can reduce the stock of provisioning services (if non-renewable such as mining extraction). They can also disrupt regulating, cultural and especially supporting services by reducing habitat, potentially impacting on recreation and interrupting air and water treatment.
- Tourism industries benefit from cultural services, and often have an incentive to directly manage biodiversity so as to maintain this flow of cultural services from the ecosystems they engage with.
- The finance sector is one step removed from a direct relationship with these ecosystem services, but are exposed to risk associated with its depletion.
- Other businesses are also one step removed from a direct relationship with the ecosystem services, but they form a significant part of their supply chain. These are users of primary products such as clothing brands and beverage producers. Their supply chains depend upon the extractive and agricultural industries.
- A final business category seeks to invest in biodiversity and ecosystems, as markets have been built to value these investments. For example, those businesses involved in voluntary biodiversity offsets and carbon markets.

Thus, an ecosystem services framework is useful for categorising the types of values derived from ecosystems and biodiversity. However, this framework does not assist us in quantifying the financial value to private sector investors in biodiversity conservation. The Total Economic Value framework aids us in this task, pointing to a range of valuation methodologies to quantify specific values.

2.3.2 Total Economic Value

An Ecosystem Services approach is useful to identify the types of benefits that flow from ecosystems and the biodiversity retained within them. However, a way of arranging these benefits in terms of economic

[10] Millennium Ecosystem Assessment Report 2005. Ecosystems and human well-being: synthesis. Island Press, Washington DC

values is required to structure an economic approach to quantifying those values. A TEV framework is a useful way to order this information.

TEV is a concept used in cost-benefit analysis (CBA) that is often used in the context of environmental economics. It distinguishes between use values that often have a direct financial value that are more easily quantifiable (such as recreation or extractive timber resources), and non-use values that reflect community preferences for outcomes that may not be directly experienced by community members (such as protection of endangered species, and a healthy environment for subsequent generations).

Both are equally valid, and use of a TEV framework ensures that all relevant values are considered. Figure 1 demonstrates the TEV framework in the context of biodiversity conservation.

Values are broadly sorted into use values (derived from use of the environmental asset) and non-use values (which are values held for environmental goods such as biodiversity, even if a person does not engage with that biodiversity).[11]

- Extractive industries such as mining and forestry generate a direct use value, and their activities can impact on direct and indirect use values as well as non-use values by destroying biodiversity at their areas of operation (subject to regulation).
- Tourism industries also benefit from direct use benefits, although if well managed these can be non-depleting and renewable. They benefit directly from the health of the biodiversity, so have a strong incentive to protect it.
- The finance sector benefits indirectly from direct use and indirect use activities, by funding them. They are exposed to risk associated with these activities.
- Other businesses are indirectly associated with direct use values, their supply chain. As noted, these are users of primary products such as clothing brands and beverage producers. Their supply chains depend upon the extractive and agricultural industries.
- A final business category seeks to use and non-use values, such as those involved in carbon sequestration and biodiversity offsets.

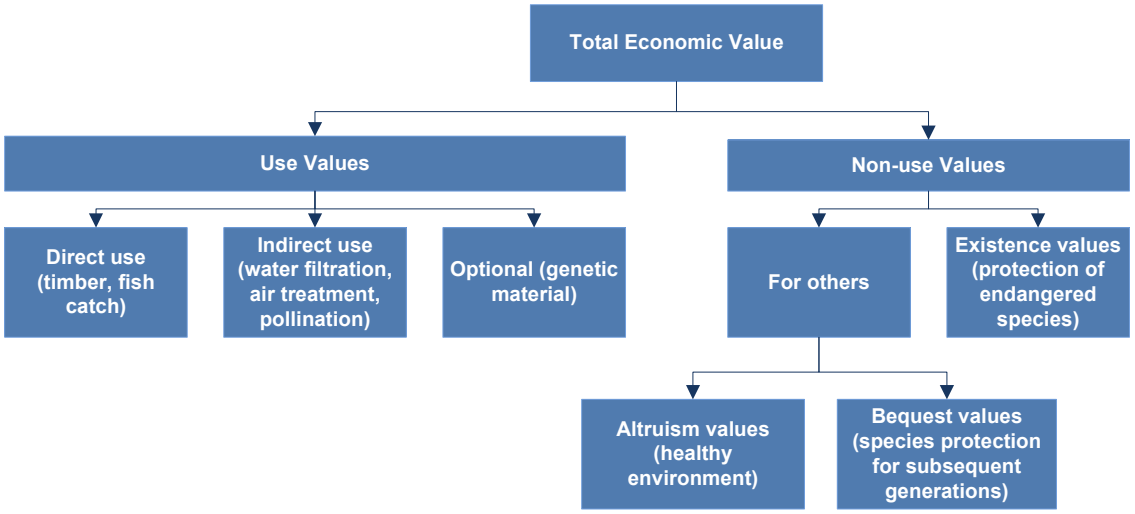

Figure 1: Total Economic Value framework[12]

[11] For example, studies consistently show that people would be willing to financially contribute to the protection of environmental assets that they have no intention to visit themselves.

Case study from the literature – Indirect use value using the replacement cost method[13]

Historically, the Catskills watersheds have supplied New York City "freely" with high quality water with little contamination as part of the "natural filtration" process of the rich and diverse ecosystems on the banks of streams, rivers, lakes and reservoirs comprising these watersheds. However, increasing housing developments and pollution from vehicles and agriculture have threatened water quality in the region.

By 1996, New York City faced choice: either it could build water filtration systems to clean its water supply or the city could protect the Catskill watersheds to ensure high-quality drinking water. New York chose to protect the Catskills. In retrospect, the decision was an easy one. It was estimated that the total costs of building and operating the filtration system were in the range of $6 billion to $8 billion. In comparison, to protect the water provision service of the Catskills, New York is obligated to spend $250 million during a ten-year period to purchase and set aside over 140 thousand hectares in the watershed.

In addition, a series of land regulations were implemented controlling development and land use in other parts of the watershed. Overall, New York City estimated that it would cost $1 billion to $1.5 billion to protect and restore the natural ecosystem processes in the watershed, thus preserving the clean drinking water service provided by the Catskills.

In the Catskills case, it was not necessary to value all of the services of the watershed ecosystems. It was sufficient simply to demonstrate that protecting and restoring the ecological integrity of the Catskills was less costly than replacing this ecosystem service with a human-constructed water filtration system.

Considering the businesses that make investments into biodiversity, they are largely involved in direct use and indirect use values:

- Tourism companies (direct use) have a non-extractive, non-depleting involvement with biodiversity, and often invest directly in the preservation of the biodiversity they are directly engaged in. The financial relationship with their investment is direct and often measurable.
- Resource companies (direct use) have an extractive and depleting involvement with the environment, and in Australia make investments consistent with their regulatory requirements. However, they often make investments in biodiversity conservation outside of these obligations (discussed further below).
- Agricultural, fisheries and forestry businesses (direct use) have an extractive but renewable involvement with the environment, and often invest directly in the biodiversity associated with this environment. Quantifying the value of this type of investment is often relatively straightforward.
- Finance companies are risk-exposed to extractive industries, and seek to minimise this risk through lending practices.
- Businesses with supply chain exposure to direct use extraction often make investments that reduce risk in those direct use activities associated with their business.

[12] RMCG analysis, adapted from Freeman, A. M. III. 2003. The Measurement of Environmental and Resource Values, Theory and Methods. Resources for the Future.
[13] Source: Whiteoak et al, 2013. Literature Review of the Economic Value of Ecosystem Services that Wetlands Provide.

2.3.3 Implications for this study

One conclusion that can be drawn from ecosystem services and TEV analysis is that some values and therefore some investments are more easily quantified than others.

For example, estimating the value of investments by businesses that have a direct use relationship with biodiversity, and who are investing in the biodiversity in which they operate their business, is relatively straightforward. These investments are often driven by an assessment of the financial benefit of the investment (or more accurately, the avoided financial cost that would be borne if they did not invest).

This relates to tourism operators investing in their tourism sites, and businesses from agriculture, fisheries and forestry who derive their revenue from the biodiversity and ecosystem function of their own sites.

However, the above frameworks shed little light on the investment by businesses in biodiversity that is unrelated to their sites of activity. For example, a mining company engaged in the research for this report is undertaking a multi-million dollar biodiversity project in a state in which the company has no business activity, and is promoting it as part of their commitment to sustainability.

Using the TEV framework, this is a business with a direct use value from biodiversity, investing in non-use values (existence, altruism and bequest).

These types of investments are more easily explained by the concept of social licence to operate than any assessment of economic value associated with the investment.

2.4 Environmental accounting

Environmental accounting essentially relates to the incorporation of environmental measurements into the broader financial accounting framework used by government and business.

Incorporation of the interaction between economic activity and environmental performance was first undertaken in national statistical agencies such as the Australian Bureau of Statistics (ABS) in their environmental reporting. This incorporation was borne of a desire to have more complete and robust information on the economy and the environment, and to better understand the interactions between the two.

The United Nations Statistical Commission adopted the System of Environmental-Economic Accounting (SEEA)[14] as an international statistical standard in 2012. This has been used by the ABS in their national environmental accounts, with the same status as the System of National Accounts from which key economic data such as Gross Domestic Product (GDP) is produced.

This approach to incorporating sustainability reporting as part of economic and financial reporting has been adopted by the private sector, with the recent development of a number of sustainability accounting frameworks. These frameworks point to a number of drivers for incorporating sustainability measures into business accounting, but primarily focus on risk mitigation:

[14] http://unstats.un.org/unsd/envaccounting/seea.asp

> *"Most companies already have sophisticated capital investment appraisal processes that focus on managing project risk. Sustainability is simply one type of risk to be managed."*[15]

This kind of sustainability accounting is being promoted to businesses and investors to influence their decision-making, but most examples provided in the literature are high level descriptions of the general sustainability decisions by industry leaders.

2.5 Environmental management in finance

Sustainability accounting is also beginning to influence the financial sector which is exploring ways to incorporate environmental management into banking practices, in two key ways:

i. Lending practices; and

ii. Environmental product development.

We discuss these in turn, below.

2.5.1 Lending practices

The consideration of environmental principles in lending practices is not new, but has in fact existed in a number of formats for the past 20 years. The United Nations Environmental Program (UNEP) Finance Initiative Statement of 1991 was an early attempt at encouraging sustainable lending practices, but was found by several studies not to measurably increase the likelihood of consideration of environmental issues in lending among signatories compared to non-signatories.[16]

The launch of the Equator Principles in 2003 is a more recent example of a risk management framework adopted by financial institutions for determining, assessing and managing environmental and social risk in projects. It is primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making. All four major Australian banks are signatories.

A 2012 PhD research thesis[17] that explored the influence of environmental management on lending practices by Australian banks found that "…major Australian banks integrate environmental risk management into each stage of the corporate credit process. However, given that they are in the early stages of taking environmental risks into account and because only limited quantifiable environmental data is available, the integration is not sophisticated." The study also found that "…the cost of bank loans will not reflect environmental risks unless these risks impact on the credit ratings of borrowing firms. Although environmental risks are not a specific input of major Australian banks' credit rating models, they are a non-financial factor of expert judgement on the credit ratings of borrowing firms."

The study notes that financial control and monitoring by lenders of environmental risk is underdeveloped, especially in the Australian context.

[15] The Prince's Charities. 2014. Accounting for Sustainability. CAPEX. A practical guide to embedding sustainability into capital investment appraisal. Accessed online at https://www.accountingforsustainability.org/cfos/network-of-chief-financial-officers/4065-2 19 May 2015.

[16] Thompson, P. and C. J. Cowton (2004). "Bringing the environment into bank lending: implications for environmental reporting." The British Accounting Review **36**: 197-218. Weber, O., M. Fenchel, et al. (2008). *Business Empirical Analysis* of the Integration *of Environmental* Risks into the Credit Risk Management Process of European Banks.

[17] Xu, Yinshuo. 2012. *Environmental risks, bank loan covenants and the cost of bank loans: an Australian study.* [Thesis (PhD/Research)] (Unpublished). Accessed online at http://eprints.usq.edu.au/22191/ on 19 May 2015.

Similar research by another PhD candidate found that to date, there is limited incorporation of environmental information in lending decisions by banks.[18]

These findings are reinforced by our consultation for this study, which found a strong interest by lenders in incorporating environmental risk into lending decisions, but an acceptance that a statistical representation of environmental risk is not yet available as part of lending decisions. There appears to be a drive to overcome these data inadequacies going forward.

2.5.2 Biodiversity and financial products

While international examples of biodiversity related financial products exist, they tend to be related to development banks. For example, EcoEnterprises Fund in the United States is a venture capital fund that has developed two investment portfolios – Fondo EcoEmpresas (launched 2000) and EcoEnterprises Partners II (launched 2010) – that invest in sustainable projects in Latin America that will have significant environmental and social impact. Examples are the provision of investment capital to small businesses in ecotourism, non-timber forest product, sustainable agriculture, sustainable aquaculture, sustainable apiculture (bee keeping) and sustainable forestry.

Since the initial drafting of this paper in 2015, there have been significant developments in environmental-related financial products internationally, and in Australia. The Victorian Government is the first Government in Australia to release a 'green bond', which will be used to finance "new and existing projects that offer climate change and environmental benefits".[19]

Westpac and National Australia Bank have released green bonds, both with a focus on clean energy and carbon emission reduction.

While this suggests a strong appetite for environmental investments, no Australian investments that were directly related to biodiversity conservation were identified in the Australian financial market.

The Commonwealth Government has commissioned research into innovative conservation finance mechanisms related to Great Barrier Reef protection as part of the Reef Trust.[20]

This appears to be an area of significant innovation and one in which much change can be expected in the coming years.

[18] Zsuzsa Bánhalmi-Zakár and A.Lex Brown. Do environmental impacts matter to lenders? Accessed online at http://www98.griffith.edu.au/dspace/bitstream/handle/10072/40345/70190_1.pdf?sequence=1 on 19 May 2015.
[19] http://www.dtf.vic.gov.au/Victorias-Economy/Green-Bonds (accessed 5 September, 2016)
[20] https://www.environment.gov.au/marine/gbr/reef-trust/partnerships (accessed 5 September, 2016)

3 Conclusions and implications

No data is collected by any agency in Australia on the biodiversity investment activities undertaken by businesses. Our research in this space has revealed no existing published Australian case studies for private sector biodiversity investments in which a financial return has been estimated, although a number have been developed within this project.

This absence can be explained by two main reasons:

- Where the business has made the investment for financial reasons, the value of the investment and its financial return is confidential information to the business, and it may not seek to reveal it externally, and
- Where the investment has been made for social licence to operate reasons, there may be no expectation of a financial return, as reinforced by the literature and consultation for this project.

The absence of compiled data precludes any statistical representation of trends in the number and type of Australian businesses investing or participating in relevant activities, or in the type of biodiversity conservation activities they are choosing to engage in.

However, our experience in this space and knowledge developed within this project allows the following insights:

- The social licence to operate investments in Australian biodiversity by the large resource companies have previously been supported by record commodity prices and profitability by businesses in that sector. Financial conditions have deteriorated significantly since that time, and it appears that investments of this scale are less likely to be repeated in the near term.
- Investments by businesses in the direct biodiversity associated with their operations appear to be undertaken by larger industry-leaders. This may be because industry leaders are more visible and thus more exposed to community perceptions than smaller firms. They are also more established and thus have more to lose should community opposition arise.
- In the agricultural sector, RMCG's experience in this sector tells us that good environmental management can most appropriately be viewed as a subset of good farm management in general. In our experience, those producers that are highly professional with better management structures tend to operate according to the capability of their soil and water resources and undertake good environmental management as part of broader farm management.[21]
- Moves by the banking sector to quantify environmental risk in their lending practices appear to be some time away.
- The development of markets in carbon, biodiversity offsets and government programs such as BushTender and other market-based instruments may facilitate increased participation in biodiversity conservation from businesses in different sectors, but no data exists to support this claim as yet.

[21]Industry leaders such as Peter Schruers and Sons in Victoria have reduced chemical use with natural replacements. Jigsaw Farms, also in Victoria, is an example of a large scale grazing operation that is transforming the landscape while operating a profitable farm business.

3.1 Gaps and barriers

The lack of data tracking private sector investment in biodiversity conservation can be viewed as an information gap in this space, but one that would be challenging to fill given the diverse range of ways in which a business can invest in biodiversity.

Companies investing in the biodiversity associated with their own business activities could be doing so without any public reporting and their investments may be commercially sensitive. Others may invest in State or Commonwealth programs associated with grants or other environmental programs, and the revenue they receive may be confidential. Still others may invest for social licence to operate reasons, without a financial return expected, or with a preference not to publish.

As regards the financial return to investment, there is an assumption underpinning this study that investing in biodiversity is broadly profitable to business. We consider this an unsupported claim, although we have identified a number of examples where a financial return does appear to exist. Given the difficulty in identifying them, they would appear more likely to be the exception than the rule.

Generally speaking, where there is a good financial return on investment, well managed businesses tend to identify them.

Outside of specific contexts, however, the perceived benefit to the private sector of biodiversity conservation is less than the financial benefit of the commercial activity that threatens it. Sometimes there is a private benefit of biodiversity conservation that is combined with a public good (the 'non-use' value identified in Figure 1). Hence the move by governments to develop markets for biodiversity and other environmental goods, that efficiently co-fund private investments with public funding.

Of greater value to the Department might be better understanding the investors that are motivated by social licence to operate, as these may be more likely to invest in Commonwealth programs going forward.

3.2 Key findings

Key findings of this project can be summarised as follows:

- No central collection of data on private sector investments in biodiversity conservation by Australian businesses exists. In most cases, the relevant data is retained by the businesses and is considered commercially sensitive information.
- A number of drivers exist for these biodiversity investments, and direct financial return tends to be related to those businesses that have a direct relationship with the biodiversity they are investing in (such as tourism operators and fisheries sectors).
- Social licence to operate investments are undertaken more often by firms that are seen to profit from resource exploitation either directly or indirectly and are crafted with a focus on the credibility of the investment (often being associated with NGOs and other trusted organisations).
- SLO investments may be more relevant to the Department, as they can be flexible in location and type in comparison to those investments made by businesses in their own area of operation.
- Financial instruments motivating biodiversity investments from the private sector are in their infancy and can be expected to develop significantly in coming years.

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