



Biodiversity Market Monitoring

Annual Report 2022–23

December 2023



Acknowledgment of Country

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders both past and present.

We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

Tribunal Members

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The Independent Pricing and Regulatory Tribunal

IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from IPART's website.

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Executive Summary



Healthy biodiversity is important for the quality of life of current and future generations. Australia's diverse natural ecosystems, shaped by unique geography and climate, provide ecological, cultural, and economic benefits. Rainforests, deserts, and wetlands play key roles in water purification, nutrient recycling, and carbon sequestration, essential for animal and human needs. Aboriginal communities have a deep connection to the land, rooted in its biodiversity.

Biodiversity loss disrupts food chains, pollination, and nutrient recycling, affecting agriculture, forestry, fisheries, and tourism. Balancing the need to preserve biodiversity with demand for housing and infrastructure development to support our growing population is a challenge.

Without government intervention, conservation of biodiversity lacks inherent economic value. This can lead to overdevelopment, compared to what we value and need for our sustained livelihood. Establishing an economic value for biodiversity conservation enables it to compete with other land uses.

In 2016, the then NSW Government established the Biodiversity Offsets Scheme (the Scheme) as one of many tools used to manage biodiversity conservation. The Scheme requires development proponents, including government agencies, to offset their impact on biodiversity by buying 'biodiversity credits'. These credits are created by landholders and traded in what is referred to as the 'biodiversity credits market'.

While the biodiversity credits market cannot address all biodiversity impacts, using a marketbased approach to establish the economic value of biodiversity conservation has several advantages. It encourages the conservation of private land, which makes up around 70% of the land area of NSW.^{a1} It also minimises the cost of offsetting for proponents — as land with lowervalue alternative uses will be conserved first — and incentivises responsible development.

NSW is one of the first jurisdictions globally to introduce a market-based mechanism for valuing biodiversity conservation.² However, implementing this approach has been challenging. In early 2023, the then NSW Government committed to continuously improving the Scheme to ensure it delivers effective and lasting environmental and economic outcomes for the communities of NSW.³ The Department of Planning and Environment (the Department)^b is working on this by trying to make it easier for stakeholders to participate, improving pricing information and ensuring confidence in the Scheme.⁴ As part of this commitment, IPART was engaged to independently monitor the market and recommend changes to promote competition and address market failure and inefficiency for a period of 3 years.^c This report is our first annual market monitoring report, for the 2022–23 year.

1.1 Changes are needed to address market underperformance

The key role of the biodiversity credits market is to connect buyers and sellers of biodiversity credits and enable them to trade efficiently. In an effective market, credit prices adjust according to supply and demand. High demand (low supply) raises prices and low demand (high supply) lowers them.

^a This includes freehold and Crown leasehold land.

^b In January 2024, the Department of Planning and Environment will split into the Department of Planning, Housing and Infrastructure and the Department of Climate Change, Energy, the Environment and Water. See *Changes to the public* sector to provide laser focus on housing and energy challenges, accessed 8 December 2023.

^c A copy of the Terms of Reference for the review is in Appendix A.

Over time, credit availability and price provide crucial information for sellers and buyers about the value of conserving different types of biodiversity. This ensures landholders face appropriate economic incentives for developing or conserving land based on its location and characteristics.

Our analysis of the NSW biodiversity credits market over 2022–23 revealed that it is not operating well in 5 key areas:

- 1. The option for proponents to pay into the Biodiversity Conservation Fund (the Fund) is preventing the market from developing.
- 2. High up-front costs and long credit generation times create a lag between credit demand and supply.
- 3. Market participants lack accurate and timely information.
- 4. High transaction costs and market complexity discourage participation.
- 5. Stakeholders lack confidence in market oversight and governance, which hinders their participation.

These problems are interconnected and reflect the uniqueness and complexity of the market. There are no examples of best practice globally that would help NSW improve the market. Government intervention is needed for the market to function well. However, while recent government changes have addressed some issues, fundamental obstacles persist.

In this report, we recommend government actions to tackle these obstacles. Our findings and recommendations align with the longer-term direction of the Scheme outlined in the Independent Review of the *Biodiversity Conservation Act 2016* and with those of other recent reviews into the Scheme.

1.2 The Government should prioritise interventions that support market-determined credit prices

To keep costs for development proponents as low as possible while still delivering the necessary biodiversity outcomes, government interventions should aim to make entry into, and trading in, the market easier and more efficient. Government interventions should not be designed to lower credit prices but should set the conditions necessary to allow the market to determine them.

The price of offsets needs to cover the costs of conserving biodiversity and identifying and generating credits. This includes the costs of establishing and managing Biodiversity Stewardship Agreements, transaction costs, opportunity costs (loss of value from not using the land for other income-earning activities) and a return for risk borne by the credit supplier. Creating and selling credits is a voluntary activity, so credits will not be provided in sufficient quantities if government interventions seek to keep the price of credits too low.

Allowing the cost of offsetting biodiversity loss to be determined by the market reduces the risk that development will occur without sufficient offsets in place, and provides much needed incentives around where to develop. Government intervention should focus on reducing establishment and transaction costs, while allowing the market to address the remaining costs.

1.3 The Government should phase out the option to pay into the Biodiversity Conservation Fund

Development proponents are not required to purchase credits in the market. The Scheme also allows them to create their own credits or to pay into the Biodiversity Conservation Fund, as a means of meeting their offset liability. When proponents elect to pay into the Fund, their credit liabilities are transferred to the Fund and the Fund's operator, the Biodiversity Conservation Trust (the Trust), must acquire the credits needed to offset them. This activity is a small part of the significant role that the Trust plays in supporting the conservation of biodiversity in NSW.

The Fund pay-in option is popular amongst proponents. It has, no doubt, eased the introduction of the Scheme and has meant that development proponents have not needed to navigate the newly established and highly complex credits market. It has provided an affordable and expedient means of meeting offset obligations and ensured that essential infrastructure developments are not delayed or prevented by the need to offset biodiversity impacts. However, there is evidence that this option has allowed development to occur at the expense of establishing a well-functioning credits market and realising biodiversity outcomes.

Currently, the Fund pay-in charge sets the price of offsetting biodiversity loss in NSW. If it is allowed to continue to lead the market, it will increasingly prevent the market from establishing prices that reflect the supply of, and demand for, the different types of credits. Once credit demand is transferred to the Trust, the characteristics of that demand fundamentally change. When the Trust enters the market to purchase credits, it does not have the same incentives as a development proponent and does not act in the same way (e.g. the Trust does not have the same sense of urgency around purchasing credits and it uses different factors to determine the price it will accept).

Recent changes to the charge method have seen some pay-in charges increase during 2022–23. However, to the extent this has helped generate additional credits supply, any benefits are likely to be short term. As demand for credits rises and land for conservation becomes harder to find, the price of credits will need to rise. Land that is needed for credit creation will increasingly need to come from areas with higher-value alternative uses. A 'nature positive'd approach, as suggested by the Independent Review of the *Biodiversity Conservation Act 2016*, and the introduction of a Commonwealth biodiversity scheme, and continued land clearing and development will increase demand for biodiversity impacts responds to these changes in the way the policy makers intend.

If the problems created by the Fund are not addressed, price signals and incentives will remain distorted or non-existent, and substantial government intervention will remain an embedded characteristic of the way the market functions. In our view, it is necessary to phase out the option for proponents to pay into the Fund to achieve the biodiversity conservation objectives associated with the market and the Scheme more broadly. One of the key reasons for this is that the Fund guarantees the supply of credits for a development proponent, even where the biodiversity loss cannot be offset.

^d A nature positive approach emphasises letting nature repair and regenerate, rather than only halting decline. In relation to the Biodiversity Offsets Scheme, this could mean requiring net biodiversity gain from development and clearing applications.

1.4 The Government should establish interim measures to reduce proponents' reliance on the Biodiversity Conservation Fund payin option

As well as facilitating the preservation of biodiversity, the Government wants to boost housing supply and infrastructure. Until the market improves, measures to remove or phase out the option to pay into the Fund are likely to impact development proponents who need to source credits within a required timeframe. Due to the complexity and cost of transacting in the market, the Government should put interim measures in place as early as possible to reduce proponents' reliance on the Fund. Different options for doing this have been raised in previous reviews of the Scheme (for example, requiring proponents to search in the market first or limiting the types of credits for which pay-in is available). Each of these options has pros and cons. In our view, none is clearly superior, and a combination of measures may be needed.

It is timely that the Government is currently considering its response to the recommendations of the Independent Review of the *Biodiversity Conservation Act 2016*. We consider that the phaseout of the Fund and any interim measures should form part of a comprehensive Government response. As a result, we have not made specific recommendations on what the interim arrangements should be but have instead noted key issues for the Government to consider.

Raising the Fund pay-in charge is one option to address this issue. The available evidence suggests that a substantial increase to the Fund charge would be needed to incentivise proponents to purchase credits in the market. This would necessitate a move away from the recently developed charge system, or an approach like the proposed UK approach where proponents are required to pay for a multiple of the number of credits they would need if they purchased them in the market.⁵ Requiring proponents to seek credits in the market first, or having the Trust directly acquire land and undertake conservation activities itself with charges designed to recover this cost,^e could also play a role but may be more complex to implement.

Even with these measures in place, some proponents are likely to still choose the Fund pay-in option. This is particularly likely to be smaller proponents for whom transacting in the market is more costly. Limiting the types of credits for which pay-in is an option may assist and can be used in combination with other options.

The Fund has accumulated significant liabilities. The size of the current backlog of demand for credits sitting in the Fund could substantially affect the market's ability to adjust prices to bring current supply and demand into balance. The Trust will need to be conscious of how it approaches the task of offsetting these liabilities, taking care not to unduly impact credit availability and market prices. To avoid competing with other credit buyers, the Trust could explore equivalent offsets through alternative biodiversity conservation actions. The Trust should ensure that its current strategic approach to delivering offsets remains responsive to changing market conditions. It should also consider the effect of its acquittals on market prices and the availability of credits for other market participants.

^e This would operate in the same way as the option for proponents to create their own offset credits. This does not lead to problematic outcomes because it results in the development proponent choosing the most efficient option to ensure offsetting occurs.

Until the market is functioning well, the Government should continue to provide guidance to landholders and proponents on the indicative value of biodiversity credits. The Trust could build in information from the auction process the Credits Supply Taskforce uses, to provide bespoke estimates to both potential credit suppliers and development proponents. This bottom-up cost assessment, together with the market price information, would help participants establish an indicative credit price range for their negotiations and inform their decision making.

1.5 The Government should continue to intervene in the market to reduce entry costs, make trading more efficient and instil confidence in the market

Interventions to increase credit supply have had a positive effect on the market to date. This work program should continue and expand to support development of the market.

The Government should continue to address up-front market entry costs. It should continue the work program currently carried out by the Credits Supply Taskforce (the Taskforce) to reduce the substantial upfront costs and risks of entering the market. This includes continuing to support landholders navigating market complexity and identifying credits, risks and opportunities. It also includes facilitating matches with buyers through its expression of interest and 'reverse auction' processes.

The Government should collect and disseminate information on supply, demand and pricing that is accurate, current, easy to understand, and meets participants' needs. This is a low-intervention way to facilitate efficient market outcomes in the biodiversity credits market. Having an independent source of information would address information asymmetry, increase certainty and foster fair competition as both credit buyers and sellers could negotiate on a level playing field.

The Taskforce should continue to play a market facilitation role. Trading through a governmentrun reverse auction gives credit buyers and sellers greater certainty that the price is a market price. It is also a simpler option than trying to source credits individually. The scale at which the Taskforce can buy credits overcomes issues related to a potential mismatch between credits sought by individuals and purchased by suppliers (i.e. credit suppliers can more easily sell credits to different development proponents, and credit buyers can buy from multiple sellers to obtain all the credits they need). This can also help buyers and sellers of small amounts of credit to trade in the market more easily, which is currently not a focus of the Taskforce.

1.6 Other actions could add value but should not take precedence over the priority actions

The priority actions relate to issues with the market that we consider prevent it from functioning well. Other actions to address market functioning could add value but will not improve the way it works unless the priority issues are undertaken first. Focusing on these actions would be its best use of resources.

We will report on the Government's response to, and progress in implementing, these priority actions in our market monitoring report for 2023–24.

1.7 List of findings and recommendations

Findings

Mar	ket Overview	
1.	In 2022–23, more new credits were created and more transactions occurred in the market than in previous years.	26
2.	In 2022–23, 1 out of 5 development proponents purchased credits through the market, while the remaining 4 made payments into the Biodiversity Conservation Fund.	27
3.	During 2022–23, payments into the Biodiversity Conservation Fund continued to accelerate despite changes the Biodiversity Conservation Trust has made to the Biodiversity Conservation Fund Charge System.	29
4.	Offset obligations transferred to the Biodiversity Conservation Trust are growing on average more than 5 times faster than the Biodiversity Conservation Trust can acquit them. In 2022–23, the Biodiversity Conservation Trust's new credit obligations were 12 times greater than its acquittals.	31
5.	The market is dominated by major buyers and government entities. In 2022–23, 3 major buyers purchased 85% of the credits traded in the market.	32
6.	The credits market is thinly traded, with most market transactions concentrated in a few specific credit types.	33
7.	Credit prices are highly variable, even for the most frequently traded credits in the market. Not all this variation is explained by underlying differences in the costs associated with Biodiversity Stewardship Agreements.	39
Pric	ing and competition	
8.	Government interventions that support the proper functioning of the market are key to fostering an effective and efficient market.	46
9.	The Biodiversity Conservation Fund effectively operates to guarantee the supply of credits for a development proponent even where the biodiversity loss cannot be offset.	49
10.	The Biodiversity Conservation Fund pay-in option is inherently less complex than trading in the market, with lower transaction costs and fewer delays. This means the Biodiversity Conservation Fund Charge System price would have to be substantially higher than the market prices for proponents to have a strong incentive to buy credits from sellers in the market.	52
11.	The Biodiversity Conservation Fund prevents the market from determining prices based on relative supply and demand, and from signalling scarcity. If the Biodiversity Conservation Trust, rather than the market, determines the price of credits, the market will be prevented from delivering its intended outcomes.	54
12.	In 2022–23, the Biodiversity Conservation Fund Charge System prices were generally in line with average market prices for the most frequently traded credits.	54
13.	The supply of credits in the market is poorly matched with demand - in terms of the types of credits needed, and the locations where they are in demand.	55

14.	The Credits Supply Taskforce plays a very useful role in the market, however the effectiveness of the Taskforce is constrained by the existence of the Biodiversity Conservation Fund Charge System. The Biodiversity Conservation Fund Charge System price prevents the reverse auction process from delivering competitive	
	outcomes by imposing an artificial price ceiling on bids.	57
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16.	The Biodiversity Conservation Trust's accumulation of offset liabilities:	59
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17.	While the Biodiversity Conservation Fund pay-in option is available, it will continue to stifle the market and limit competition.	60
Cost	s of entering the market	
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19.	The point of application of capital gains tax is a disincentive for some landholders and may make the biodiversity credits market a less competitive land use option than alternative schemes.	73
20.	The provisions of the <i>Biodiversity Conservation Act 2016</i> that safeguard the Total Fund Deposit disincentivise landholders from selling lower-value credits before they have met their Total Fund Deposit. This may be contributing to the supply-demand imbalance in lower-priced credits, such as certain types of species credits.	74
21.	The Credits Supply Taskforce's work program is reducing complexity, upfront costs and the revenue risks faced by potential credit suppliers.	76
Avai	lability of information	
22.	Market participants do not have reliable supply and demand data at an early enough stage for informed decision-making.	82
Marl	ket trading	
23.	Finding credits in the market involves high search costs. This makes credit buyers more likely to pay into the Biodiversity Conservation Fund without exploring the market first.	94
24.	Transferring credits is a manual process, causing delays, uncertainties and cashflow risks for those involved.	95
25.	The market's high complexity requires a facilitator or specialised third-party brokers to help with trading. The use of such services can play a positive role in supporting liquidity in the market.	102
Con	fidence in the market	
26.	Market participants lack confidence in the governance of third parties in the market, especially around how conflicts of interest are managed.	109

27.	Some previous and current policy changes have caused financial uncertainty and	
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	example of this is the transition between the BioBanking scheme and Biodiversity	
	Offsets Scheme.	112

Recommendations

Priority	actions
1 HOILUY	actions

1.	Government interventions should prioritise facilitating market participation, maintaining integrity and instilling confidence in the market over keeping the cost of offsetting biodiversity impacts low.	46
2.	The option for development proponents to pay into the Biodiversity Conservation Fund should be phased out.	60
З.	The Government should put interim measures in place to reduce development proponents' reliance on the Biodiversity Conservation Fund.	64
4.	The Biodiversity Conservation Trust should develop an appropriate strategy for reducing the backlog of unacquitted credits in the Biodiversity Conservation Fund that considers the potential impact of its actions on competition and prices in the market.	65
Othe	er actions	
5.	The Government should continue its work program (currently carried out by the Credits Supply Taskforce) to reduce the upfront costs and risks of landholder entry and participation in the market.	76
6.	The Government should consider ways to identify potential credit demand earlier in the development planning process.	82
7.	When creating or improving information tools for market participants, the Government should adhere to ASIC's Good Disclosure Principles.	89
8.	The Credits Supply Taskforce should continue to facilitate trading in the market, including regularly holding market-based auctions to match credit supply and demand.	102
9.	 The Government should explore ways to simplify and shorten the transaction process, including by: a. automating certain parts of the process b. determining the appropriate level of delegation for transaction authorisation c. providing more upfront information and support to minimise form resubmissions d. providing greater transparency around credit ownership. 	103
10.	The Government should continue to take steps to improve confidence in the market, emphasising increased oversight, transparency, and consultation.	115

Chapter 2 》

Introduction and context

What is the biodiversity credits market and why is it important?



Australia's diverse ecosystems are home to a variety of unique flora and fauna that are not found anywhere else. This rich biodiversity provides a range of ecological, cultural, intrinsic and economic benefits. Maintaining this biodiversity is important for the quality of life of current and future generations. Biodiversity loss can have catastrophic effects on ecological processes, including creating imbalance in food chains, and reducing pollination and nutrient recycling. This can lead to loss of species, and the eventual decline of agriculture, forestry, fisheries and tourism.

Across the world, biodiversity is threatened by habitat loss and degradation. This is caused by the clearing of native vegetation for agriculture, urban development and resource extraction, as well as by climate change, invasive species, disease, pollution and poaching.

In NSW, landholders who want to develop or clear vegetation on their land must offset or compensate for their impact on biodiversity.⁶ Proponents of development are required to balance the unavoidable impacts of their actions by supporting the conservation of equivalent biodiversity elsewhere. One way they can do this is by purchasing biodiversity credits from landholders who are willing to enter into a Biodiversity Stewardship Agreement with the NSW Government, to preserve and promote biodiversity on their land in perpetuity. The biodiversity credits market provides a platform for these parties to buy and sell different types of biodiversity credits.

The biodiversity credits market has faced various challenges since its inception, particularly around ensuring adequate in-demand credit supply, market liquidity and stakeholder confidence. In 2021, the Government commenced an Integrated Improvement and Assurance Program.⁷ In this context, IPART was appointed to monitor the biodiversity credits market and make recommendations to improve its efficiency and effectiveness.

We have been asked to do this annually for 3 years, from 2022–23 to 2024–25. This report summarises our analysis and provides the findings from our first annual review.

This chapter provides context for the review, explaining how the market works, who the key market participants are, how the market fits into the broader Biodiversity Offsets Scheme, and how the Scheme is evolving. It also explains the process we have undertaken for the review and how the report is structured.

2.1 The biodiversity credits market

In 2016, the *Biodiversity Conservation Act 2016* (Biodiversity Conservation Act) established the Scheme, which provides a framework to avoid, minimise and offset the impacts of development and native vegetation clearing on biodiversity. One of the key elements of the Scheme is the creation of a market for biodiversity credits, to facilitate trade in ecosystem and species credits.^f

Under the Scheme:

- Applications for development or clearing must set out how impacts on biodiversity will be avoided and and/or minimised. Remaining impacts can be offset with biodiversity credits.
- Landholders can generate biodiversity credits by establishing Biodiversity Stewardship Agreements on their land. They can sell the credits to earn income and provide the funding to support the long-term management of the stewardship site.

^f A glossary of key terms relating to the biodiversity credits market can be found in Appendix B

The biodiversity credits market is a mechanism for proponents of land to find and buy the biodiversity credits they need, and for Biodiversity Stewardship Agreement holders to sell the credits they create.

Not all biodiversity credits created are traded directly by credit buyers and sellers in the market. Landholders who require credits have 3 options for meeting their credit obligations: purchasing them in the credits market (either directly from credit sellers or from intermediaries), creating credits themselves on land they own, or paying into the Biodiversity Conservation Fund (the Fund). Paying into the Biodiversity Conservation Fund transfers the credit obligation to the government-owned Biodiversity Conservation Trust (the Trust), which then seeks to buy or create the necessary credits to acquit those obligations.

The Department of Planning and Environment (the Department) acts as a market facilitator, accredits assessors and publishes market data. Other government entities, including the Trust and the Credits Supply Taskforce (the Taskforce), also have roles in the market along with non-government individuals and organisations. Figure 2.1 provides a simplified illustration of how the market works. Figure 2.2 identifies the key market participants and outlines their roles.



Figure 2.1 Simplified map of the biodiversity credits market

Figure 2.2 Key participants in the biodiversity credits market



Credit buyers (developers or proponents) – proponents of residential, major infrastructure or mining projects who must offset the biodiversity impacts from development that they cannot avoid or minimise.



Credit sellers (landholders) – private landowners, local councils or government agencies that enter into Biodiversity Stewardship Agreements with the Government to create and sell biodiversity credits on their stewardship site.



Accredited assessors – ecological experts who apply the Biodiversity Assessment Method to calculate the number and type of credits that credit buyers need to offset their biodiversity impacts and that sellers can create on their land. Assessors may be private entities or employed by state or local government, and are accredited by the Department of Planning and Environment.



Biodiversity Conservation Trust – administers the Biodiversity Conservation Fund and has 2 main roles in the Scheme. It takes on credit obligations from proponents who opt to meet their obligations by paying into the Fund and seeks to buy credits or fund conservation activities to meet this obligation. It also monitors landholders' compliance with their obligations under Biodiversity Stewardship Agreements.



Credits Supply Taskforce – processes applications for, and enters into, Biodiversity Stewardship Agreements with landholders on behalf of the Government. It also supports credit sellers to enter into stewardship agreements and runs 'reverse' auctions to help proponents obtain the credits they need.



Brokers – assist credit buyers and sellers to navigate the process, and find and negotiate the price of credits in the market. They are not currently regulated. Brokers may be ecologists, lawyers, real estate agents or accredited assessors.



Consent authorities – state or local government entities that determine development applications and, if approved, impose an offset obligation and are responsible for ensuring compliance with this obligation.



Department of Planning and Environment – supports the Minister for Environment to administer the Biodiversity Conservation Act and Scheme, including by maintaining registers about credit ownership, transfers and retirements, and by training, accrediting and overseeing the conduct of accredited assessors.

2.1.1 Changes to improve NSW's Biodiversity Offsets Scheme

Our review focuses on the credits market, not the broader Scheme. However, the context in which the review is occurring is important because changes to the Scheme and participants' confidence in it affect how the market functions.

The legislation that establishes the Biodiversity Offsets Scheme, the operation of the Scheme itself and the biodiversity credits market have been the subject of many reviews since they were established in 2017. In recent years several different reviews have identified problems with the Scheme, many of which are relevant to the biodiversity credits market.⁹

More recently, an independent review of the Biodiversity Conservation Act found that NSW is not doing enough to conserve and promote biodiversity.⁸ The review report, which was released at the end of August 2023, sets out several recommendations for change aimed at achieving a more nature positive approach.^h The Government is currently considering these recommendations alongside those of the statutory review of the native vegetation provisions of the *Local Land Services Act 2013* and has not yet provided a policy response.

As such, many of the problems the Scheme is experiencing are well known. However, the solutions are not as obvious. The Scheme is one of only a handful of market-based biodiversity conservation schemes in the world and there is no best practice example that NSW can follow. The Government has adopted a process of continual improvement to address problems as they arise. Appointing IPART to monitor the market's performance and identify opportunities to improve market efficiency and address market failure is one of its strategies to do this.

Over the past few years, incremental changes have been made to address identified problems with the Scheme. Many of these changes were implemented during the 2022–23 financial year, so the full effects of these changes on the credits market are not yet reflected in the available market data.

Some of the recent changes that have a material impact on the operation of the credits market include:

- the establishment of the Biodiversity Credits Supply Fund, operated by the Credits Supply Taskforce, in July 2022
- a new Biodiversity Conservation Fund Charge System to calculate Fund pay-in charges in October 2022
- incremental improvements in the availability and accessibility of market data made by the Department, such as changes to the Biodiversity Credits Market Sales Dashboard and registers of supply and demand for credits.

^g A list of relevant reviews is provided in our Issues Paper for the review at page 13.

^h A nature positive approach emphasises letting nature repair and regenerate, rather than only halting decline. In relation to the Biodiversity Offsets Scheme, this could mean requiring net biodiversity gain from development and clearing applications.

The Biodiversity Credits Supply Fund injected around \$100 million into the Scheme with the aim of fast-tracking the supply of in-demand biodiversity credits.⁹ The Credits Supply Taskforce manages this fund. It engages with proponents to determine what credits will be demanded in the future and proactively collaborates with landholders who can supply in-demand credits. The Taskforce encourages landholders to enter into Biodiversity Stewardship Agreements by reducing or removing the up-front costs and making biodiversity stewardship information more accessible.

The Biodiversity Conservation Fund Charge System is the method used to determine the price at which the Fund will accept a transfer of liability from a proponent. This price has a strong influence on the price of credits in the market.¹ The new charge system is designed to estimate the future costs of purchasing biodiversity credits more accurately and overcome some concerns with the previous method. It had transitional arrangements in place to cap price increases until October 2023.

2.2 Why an effective credits market is important

Demand for biodiversity credits is growing and this growth is expected to continue. The economic development that is creating this demand is coming from a range of factors, including investment in renewable energy, housing, manufacturing and infrastructure delivery. Governments are rezoning land to boost housing supply due to projected increases in population and concerns around housing affordability. They are also creating renewable energy zones to combat climate change and developing major transport projects, such as the Inland Rail.

Although the policy context in which the market operates is under review, there is support for the biodiversity credits market to continue to be part of NSW's approach to dealing with the unavoidable impacts of development on biodiversity. A well-functioning biodiversity credits market enables credit buyers and sellers to effectively and efficiently trade credits to meet development proponents' obligations under the Scheme. This helps ensure that economic development takes place in a way that is consistent with conserving NSW's unique and important biodiversity.

In a well-functioning market, credit prices signal the cost of offsetting impacts and give landholders, whether they are seeking to buy or sell credits, the right incentives to develop land or conserve biodiversity. The market provides a source of information about the costs of developing in different areas and helps development proponents to assess the different options available to them. A well-functioning market might mean that developments that will impact rare or threatened species will not proceed, as the proponents will find it difficult and expensive to obtain credits. However, it should also mean that developments on land that will impact more abundant ecosystems or species can occur without undue cost or delay.

ⁱ Proponents can use the Biodiversity Conservation Fund to meet their offset obligations. If a proponent is willing to pay the quoted charge, the Trust cannot refuse a payment into the Fund. Proponents are only better off seeking credits in the market if they can buy them for less than the Fund charge.

2.3 IPART's role and approach to market monitoring

IPART has been appointed to monitor the biodiversity credits market over a 3-year period. We will monitor how the market performs within the context of the current policy and legislative landscape to achieve this objective. We will consider whether the market supports healthy competition and fair trading, how we can improve its efficiency and whether changes are needed to address market failures for the benefit of all participants (see Terms of Reference in Appendix A).

A key aspect of our role will be assessing whether, and how, actual and planned changes to the market and its operation improve the way the market functions. We expect to see changes in market data and outcomes over the term of the review, as the more recent changes are bedded down. Over the review period, we will also make recommendations for how the market's performance can be improved, what additional data should be collected and what further changes the Government should consider improving the functioning of the market.

For this first annual review, which considers the 2022–23 financial year, we released an Issues Paper and sought submissions from stakeholders on our approach to the review and their experience with the market. We also held a public hearing in September that outlined some of the preliminary data and stakeholder views we had received to date.

We will undertake our review of the market for 2023–24 in the second half of 2024 and our third annual review, for the 2024–25 year, is due to be completed in December 2025.

2.3.1 Caution should be exercised in interpreting market data

Our analysis and findings in this report are informed by:

- market data received directly from the Biodiversity Conservation Trust, Department of Planning and Environment and public sources
- submissions to our Issues Paper, discussion at our public hearing and stakeholder meetings
- outcomes of recent reviews of the Scheme and its legislative framework and the broader context of government policy on biodiversity conservation and repair.

In many cases, the data we collected on the market's operation in 2022–23 is incomplete, unable to be disaggregated sufficiently to determine causality or contains too few data points to provide an accurate picture of the state of the market. We have highlighted areas where this is the case and caution should be exercised in interpreting the data.

2.3.2 Not all problems can be addressed by improving the biodiversity credits market's operation

The biodiversity credits market is one of many public policy tools that the Government uses to manage biodiversity conservation. In response to our Issues Paper and public hearing, stakeholders raised several other related concerns about the broader Scheme's operation, including their views that:

- biodiversity gains are not being accurately and transparently measured and reported
- entry thresholds for the Scheme are too low and proponents are not doing enough to avoid and mitigate biodiversity loss in the first instance
- Threatened Ecological Communities should not be included in the market
- there should be greater strategic biodiversity loss offsetting at the local council level
- problems with the BioBanking equivalence calculations used to convert BioBanking credits to Biodiversity Offsets Scheme credits
- proponents should not be allowed to use variation rules to find different credit types to offset their obligations.¹⁰

These issues are important matters for the Government to consider in the broader context of conserving biodiversity and confidence in the Scheme as a whole. In some cases, they have been addressed by recommendations made by other reviews of the Scheme. However, we consider that they are not central to the focus of our review, which is to monitor the market and make recommendations to improve its operation.

2.4 How this report is structured

Chapter 3 of this report provides an overview of the market in 2022–23 and compares the outcomes we have observed with what would occur in a well-functioning market. The remainder of the report provides more detailed analysis of key elements of the market:

- Chapter 4 discusses the effectiveness of competition in the market, including whether the market brought together supply and demand to establish efficient prices that signal the costs of offsetting biodiversity to market participants, and the impact of Government interventions.
- Chapter 5 discusses the costs of entering the market and the impact they have on incentives for landholders to enter the market.
- Chapter 6 discusses the availability and timing of information for market participants.
- Chapter 7 discusses the accessibility of the market for buyers and sellers to trade credits.
- Chapter 8 discusses the level of confidence participants and the broader community have in the market and how that influences their decisions.

Chapter 3 发

Market overview for 2022-23

Was the biodiversity credits market working well over the past year?



This chapter provides a high-level overview of the how the biodiversity credits market operated in 2022–23. It summarises the key market indicators using available data. Subsequent chapters of this report address the market's key issues in more detail and provides our recommendations for improving how the market functions.

3.1 Key points in this chapter

Key market indicators suggest that the market is not functioning well.

During 2022–23 the number of credits traded in the market significantly increased, as did the number of Biodiversity Stewardship Agreements established. However, the number of market transactions remained low, particularly relative to the number of development proponents choosing to transfer their credit obligations to the Biodiversity Conservation Fund.

The number of credit obligations transferred to the Biodiversity Conservation Fund has continued to rise despite recent changes to the method the Trust uses to determine the Fund charge. Credits continue to be transferred into the Fund at a much faster rate than the Trust is able to acquit them.

The market is dominated by government buyers and large entities. There are few, large buyers in the market, and each one has a substantial market share. In 2022–23, 85% of the credits traded were purchased by just 3 buyers.

Market transactions are concentrated in just a few credit types. There is significant variation in market prices, and some of this is explained by differences in the cost of supplying credits. Evidence also suggests that supply and demand are not well matched.

3.2 Credit creation and trading increased

The number of Biodiversity Stewardship Agreements entered into and the number of market transactions undertaken were higher in 2022–23 than in previous years.

3.2.1 More Biodiversity Stewardship Agreements were established in 2022–23 than previous years

In 2022–23, a total of 297 stewardship agreement expressions of interest were lodged, leading to 41 new agreements covering nearly 22,000 hectares (ha). This activity created 190,377 new credits across 169 credit types (see Box 3.1 for more background on biodiversity credits). By 30 June 2023, 86 Biodiversity Stewardship Agreements were in place, covering around 37,000 ha.¹¹





Note: BioBanking Agreements under the BioBanking Scheme were the equivalent of current Biodiversity Stewardship Agreements. Source: IPART analysis, using data from the Biodiversity Conservation Trust and Department of Planning and Environment.

This increase in stewardship agreements meant more credits were available in the market. Most new credits (92%) were immediately in demand.¹² Figure 3.2 shows the top 3 ecosystem Offset Trading Groups and species credits generated in 2022–23, along with the total demand for each credit type.

There appears to be strong demand for most of the credit types created in 2022–23.¹ However, inconsistencies between supply and demand information make it challenging to confirm this. Of the credit supply values shown below, it is unclear how many credits were generated for internal offsets without registered demand (i.e. when credits are generated upon agreement with a development proponent for their own offsetting purposes).

^j The exception to this is the most highly generated ecosystem credit in 2022-23 (Sand Plain Malee Woodlands (<50%)). Demand estimations provided by the Department showed there was no forecast demand for this credit as of December 2022.



Figure 3.2 Top ecosystem Offset Trading Group and species credits generated in 2022–23

Note: Demand includes forecast demand from major projects, including unacquitted major projects obligations transferred to the Trust, up to December 2022. Unacquitted obligations transferred to the Trust between December 2022 and July 2023 have been added to these figures. There may be inaccuracies in the demand volumes captured in these figures.

Source: IPART analysis, using data from Biodiversity Conservation Trust and Department of Planning and Environment.

) Inconsistencies in supply and demand data

The available data does not provide a full picture of the supply-demand balance in the market. There may be some inaccuracies in the demand and supply data due to differences in the information they capture.

Box 3.1 What is a biodiversity credit?

Landholders can enter into a Biodiversity Stewardship Agreement to generate biodiversity credits on their land. They can sell these credits to development proponents seeking to buy credits as a biodiversity offset.

A biodiversity credit quantifies the biodiversity impacts of a proposed development or activity, and improvements in biodiversity values due to management actions at a stewardship site. This quantification is scientifically defined and is set out in the Department's Biodiversity Assessment Method.

The 2 broad categories of credits are:

- ecosystem credits, which quantify change in vegetation associated with ecological communities, per unit of area at a site
- species credits, which quantify the (estimated) number of individual members of a species present at a site.

Many subcategories of credits have been created to categorise the type of biodiversity most accurately. Species credits are categorised by species. Ecosystem credits are typically categorised by Offset Trading Groups, which aggregate characteristics of ecological communities that provide habitat for threatened species. These characteristics include the Plant Community Type, how cleared the vegetation is, and how threatened the community is.

a. Note: Our definition of biodiversity credits is simplified and does not capture the full rigorous scientific definition provided in the Biodiversity Assessment Method.

Source: Department of Planning and Environment (formerly the Department of Planning, Industry and Environment), *Biodiversity Assessment Method*, October 2020.

3.2.2 The number of credits traded increased

In 2022–23, market transactions grew substantially compared to previous years.^k The number of transactions and their dollar value increased by around 70% and 55%, respectively. During the same period, the number of credits traded in these transactions more than doubled. Figure 3.3 shows this change compared to previous years since the beginning of the Scheme.





Figure 3.3 Growth in market transactions since Scheme commencement

Source: IPART analysis, using data from the Department of Planning and Environment. a. Values shown are in \$2022–23 terms.

() Limited transaction data

Drawing conclusions from the 2022–23 data alone is challenging. To address this, we looked at transactions from before 2022–23 and examined trends in different groupings of credits.

^k Throughout this report, 'transaction' refers to a trade of credits. This does not include credit retirements.

3.2.3 The Credits Supply Taskforce purchased 15% of traded credits through its reverse auctions in 2022–23

To boost the supply of sought-after credits, the Taskforce began holding reverse auctions in 2022–23. In these auctions, prospective credit sellers bid to sell their credits, with the Taskforce selecting successful sellers through a competitive process. This is also known as a 'credit tender'. The process is described in further detail in Chapter 7.

The Taskforce acts as a 'market maker', buying credits on behalf of development proponents. It does not take on proponents' obligations but facilitates transactions through these auctions. In a reverse auction, it would be expected for the credit price to reflect the market price. That is, it represents what buyers are willing to pay and sellers are willing to supply. This approach allows prospective credit buyers to actively participate in the market, offering a competitive alternative to the Biodiversity Conservation Fund.

In 2022–23, the Taskforce completed 2 reverse auctions, buying just under \$29 million in credits upfront, equalling 27% of the year's total value of market transactions. The credits purchased by the Taskforce in reverse auctions accounted for 15% of all credits traded. Figure 3.4 shows the top 5 credits purchased by the Taskforce, based on total transaction value.



Figure 3.4 Total value of top-traded credits purchased through reverse auctions in 2022–23

Source: IPART analysis, using data from the Department of Planning and Environment.

The Taskforce's reverse auction purchases, along with the increase in the number of Biodiversity Stewardship Agreements established, indicates an increasing supply of, and subsequent purchase of sought-after credits. These factors contribute to increased market participation and competition.

Finding

1. In 2022–23, more new credits were created and more transactions occurred in the market than in previous years.

3.3 Offset obligations transferred to the Biodiversity Conservation Trust remain significant

While market transactions have shown considerable growth in 2022–23, the number of offset obligations transferred to the Biodiversity Conservation Trust (by paying into the Biodiversity Conservation Fund) continues to be significant.¹ Even with the introduction of the new Fund charge system, the rate of development proponents paying into the Fund has continued to accelerate.

3.3.1 For every development proponent that buys credits from the market, 4 pay into the Biodiversity Conservation Fund

In 2022–23, 152 development proponents made payments into the Biodiversity Conservation Fund. During the same time, 36 bought credits directly in the market. In other words, the Fund pay-in option was more than 4 times preferable to proponents than buying credits directly from sellers in the market. Figure 3.5 compares the proportion of buyers who transferred their credits to the Trust with those who participated directly in the market, including the number of credits accounted for by each group.

The number of credits transferred in the market exceeded the number of credits transferred to the Trust. However, Figure 3.5 shows that while the number of credits transferred in the market was nearly 4 times greater than those that were transferred to the Trust, these credits were purchased by a minority of buyers.^m This indicates that market transactions generally involved large buyers purchasing a significant number of credits. In fact, in 2022–23, roughly 60% of all credits traded directly in the market were purchased by just one buyer.

¹ When a development proponent pays into the Fund, it transfers its offset obligation to the Trust. The Trust must then find credits to acquit that offset obligation.

^m Including the Credits Supply Taskforce, which purchased credits on behalf of 4 buyers in 2022-23.



Figure 3.5 Payments into the Biodiversity Conservation Fund pay-in option relative to market transactions in 2022–23

Note: 'Market Transactions' exclude credit transfer transactions involving the Biodiversity Conservation Trust. Source: IPART analysis, using data from the Department of Planning and Environment and the Biodiversity Conservation Trust

Finding

2. In 2022–23, 1 out of 5 development proponents purchased credits through the market, while the remaining 4 made payments into the Biodiversity Conservation Fund.

3.3.2 Payments into the Biodiversity Conservation Fund continue to grow despite changes to the pay-in charge calculation method

In 2022–23, roughly \$80 million was paid to the Biodiversity Conservation Fund - a 30% increase from the previous year.¹³ In terms of number of credits, this resulted in a 17% increase in credit obligations transferred to the Trust between 2021-22 and 2022–23.¹⁴

In October 2022, the Biodiversity Offsets Payment Calculator Order 2022 introduced a new Biodiversity Conservation Fund Charge System.¹⁵ It replaced the earlier system (the Biodiversity Offsets Payment Calculator) which had experienced volatility in charges. The new system uses a methodology based on ecosystem and species cost-structure tools (applying a bottom-up costing approach), market sounding, and statistical modelling to determine charges.ⁿ

Transitional price cap rules were established to minimise market impacts from the new charge system. The rules introduced a 20% cap on any price increases for credits priced higher than \$5,000 per credit under the Biodiversity Offsets Payment Calculator. These rules applied until 16 October 2023.¹⁶

ⁿ The statistical model is applied to calculate credit prices for 2 ecosystem Offset Trading Groups: the Cumberland Plain Woodland in the Sydney Basin bioregion, and Western Slopes Dry Sclerophyll Forests.

Since the new charge system started in October 2022, payments to the Fund have steadily increased. Despite this, in 2022–23 market transactions surpassed the number of credit obligations transferred into the Fund for the first time since the Scheme began. However, this growth was influenced by one major development proponent buying almost 51,000 credits in 2022–23 and may not indicate significant change driven by the new charge system. Figure 3.6 illustrates the growth in Fund payments compared to market transactions. Figure 3.7 shows the breakdown of charges and payments into the Fund since this time.



Figure 3.6 Cumulative Biodiversity Conservation Fund payments compared to market transactions

Source: IPART analysis, using data from the Biodiversity Conservation Trust and the Department of Planning and Environment. a. Values shown are in \$2022–23 terms.



Figure 3.7 Biodiversity Conservation Fund charges and payments under the new charge system

Source: IPART analysis, using data from the Biodiversity Conservation Trust.

In the past financial year, 77% of Fund quotes were exempt from transitional price cap rules as they were priced below \$5,000. The remaining 23% had their increase capped. With the caps no longer in place, Fund charges may now be higher than they were in 2022–23 and we would expect more interest in buying credits through the market. However, many factors other than price influence proponents' choices, which we discuss in subsequent chapters.

Currently, it is unclear how the new charge system will affect the number of obligations transferred, market transactions, or the Trust's acquittal rate. Yet, based on the available data, interest in the Fund pay-in option seems to be growing even after the introduction of the new charge system.

Finding

3. During 2022–23, payments into the Biodiversity Conservation Fund continued to accelerate despite changes the Biodiversity Conservation Trust has made to the Biodiversity Conservation Fund Charge System.

3.3.3 Credit obligations acquired through the Biodiversity Conservation Fund are growing more than 5 times faster than the Trust can acquit them

The rate at which the Trust acquits its credit obligations reveals the demand for credits not traded in the market or used for biodiversity conservation offsets. Figure 3.8 shows how the Trust's credit obligations have grown compared to the rate of acquittal since the Scheme began.

On average, proponents pay the Fund to transfer obligations for around 11,000 credits per year to the Trust.¹⁷ The Trust acquits these credits at a rate of approximately 2,200 credits per year. This suggests the Trust's credit obligations are growing more than 5 times faster than it can fulfill them. In 2022–23, the Trust's obligations grew 12 times faster than its rate of acquittal.¹⁸

Currently, 81% of all credit obligations transferred to the Trust by proponents are still awaiting acquittal. Most of these unacquitted credits were transferred to the Trust in the recent financial year (2022–23), and approximately 15% have been held for more than 3 years.

Figure 3.9 illustrates the ages of the Trust's unacquitted obligations and the proportion of commitments yet to be completed. While most unacquitted credits were acquired in the past year, some date back to the start of the Scheme.



Figure 3.8 The Biodiversity Conservation Trust's rate of acquittal of its obligations

Source: IPART analysis, using data from the Biodiversity Conservation Trust.

Figure 3.9 Age of unacquitted Trust obligations and proportion of committed purchases



Source: IPART analysis, using data from the Biodiversity Conservation Trust.

Note: The right-hand graph shows the Trust's cumulative committed purchases, which refer to credits for which the Trust has in-principle agreed to buy credits. These credits are not yet bought or transferred to the Trust's ownership for the purpose of acquitting an obligation. Credits for which the Trust has committed purchases are also included within the cumulative unacquitted credits category.

Finding

4. Offset obligations transferred to the Biodiversity Conservation Trust are growing on average more than 5 times faster than the Biodiversity Conservation Trust can acquit them. In 2022–23, the Biodiversity Conservation Trust's new credit obligations were 12 times greater than its acquittals.

3.4 The market is dominated by major buyers and Government entities

The market is dominated by a few major buyers and government entities. Currently, the 3 largest buyers are the Biodiversity Conservation Trust, the Credits Supply Taskforce, and a single development proponent overseeing a major infrastructure project. Figure 3.10 shows their share compared to all credit transfers in market. In 2022–23, these 3 buyers made up 60% of credit transfer transactions and 85% of the total credits traded in the market.° This makes the biodiversity credits market similar to a monopsonist market, as a small number of buyers have a large amount of potential market power. This large amount of potential market power means the larger buyers can have a significant effect on prices in the market.



Figure 3.10 Market share of major buyers in the credits market

Source: IPART analysis, using data from the Department of Planning and Environment. a. Figures refer to credit transfers completed in 2022–23 only. Retirement transactions are excluded from the analysis.

 ^{&#}x27;Credit transfer transactions' refer to individual transactions conducted between 2 parties for the purpose of changing ownership (via buying & selling) of credits. Multiple credits can be transferred within one transaction. 'Total credits traded' refers to the sum total number of credits transferred between parties in the market. Credit retirement transactions are excluded from both these figures.

Among the 3 major buyers, the Trust and the Taskforce play significant roles. Both represent different government interventions to address liquidity and facilitate transactions between buyers and sellers. However, the Taskforce operates differently compared to the Trust and other major buyers. Instead of buying credits to meet its own obligations, it acts as a market maker, quickly reselling credits to various development proponents. Therefore, the Taskforce's transactions shown in the figure above are representative of demand from development proponents.

3.4.1 Major buyers are better positioned to negotiate efficient credit prices

A high concentration of buyers pushes credit prices down. For the most traded credit, White Box – Yellow Box – Blakely's Red Gum Grassy Woodland, it generally seems that the more credits a buyer purchased, the lower the price per credit. Figure 3.11 shows how the scale at which a buyer purchases credits affects prices for this credit.



Figure 3.11 Relationship between transaction size and price per credit

Source: IPART analysis, using data from the Department of Planning and Environment.

a. Prices shown are in \$2022–23 terms.

b. Transactions shown above include all years of trading data. Excludes outliers outside 1.5 interquartile range.

Finding

3 5.

The market is dominated by major buyers and government entities. In 2022–23, 3 major buyers purchased 85% of the credits traded in the market.
3.5 Market transactions are concentrated in few credit types, and prices are highly variable

At the time of analysis, the Scheme recognised 1,394 different types of ecosystem credits, which can be traded within 364 discrete Offset Trading Groups. It also recognised 867 different species credits.¹⁹ Of this, very few are traded in the market. Only 54 of the 364 Offset Trading Groups and 22 of the 867 species credits have ever been traded in the market. Figure 3.12 shows the proportion of credits traded in the market to date.^p



Figure 3.12 Proportion of credit types traded in the market

Source: IPART analysis, using data from the Department of Planning and Environment.

Finding

6. The credits market is thinly traded, with most market transactions concentrated in a few specific credit types.

3.5.1 Few trades take place, even for the most highly traded credits

Even the most traded credits have few market transactions. Only the top 3 credits have been traded more than 20 times. In fact, for the 15% of Offset Trading Groups and 3% of species credits traded so far, each has been traded 4 times on average. Table 3.1 displays the volume of market transactions for the 3 most traded ecosystem Offset Trading Groups and species credits as of 30 June 2023.

P This analysis was based on data we received for 2022-23. However, in December the Department advised us that due to reclassification of some Plant Community Types and species credit types, there are now 386 Offset Trading Groups, 1,841 ecosystem credit types and 956 species credit types.

Table 3.1 Credit transfer transactions of top 3 ecosystem Offset Trading Groups and species credits since the start of the Scheme

Credit name	No. of market transfers	Proportion of total Offset Trading Groups/species credit transfers
Ecosystem Offset Trading Groups		
White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland	44	21%
Western Slopes Dry Sclerophyll Forests <50%	22	10%
Cumberland Plain Woodland in the Sydney Basin Bioregion	13	6%
Species credits		
Squirrel Glider	22	31%
Koala	16	22%
Brush-tailed Phascogale	5	7%

Source: IPART analysis, using data from the Department of Planning and Environment.

Transactions are highly concentrated in the most frequently traded credits. The 3 most traded Offset Trading Groups account for almost 40% of ecosystem credits transactions. The 3 most traded species credits account for 60% of species transactions, with Squirrel Glider transactions alone representing 31%. However, even for these in-demand credits, pricing information remains limited. For instance, Brush-tailed Phascogale - the third most traded species credit - has been traded only 5 times since the Scheme began in 2018.

() Limited transaction data

Our ability to draw conclusions from the available data is limited. To help overcome this, we have considered market transactions from all available years of data, rather than only 2022–23. In some cases, we have considered trends within specific credits (or groups of credits).

Box 3.2 Commonly traded species credits in the market



Squirrel Glider

The adult Squirrel Glider has a head and body length of about 20 centimetres. It has blue-grey to brown-grey fur on its back, white on its belly and the end third of its tail is black.

Conservation status in NSW: Vulnerable



Koala

The Koala is an arboreal marsupial with fur ranging from grey to brown on the back, and white on the stomach. It has large furry ears, a prominent black nose and no tail. It spends most of its time in trees and has long, sharp claws, adapted for climbing.

Conservation status in NSW: Endangered



Brush-tailed Phascogale

The Brush-tailed Phascogale is a tree-dwelling marsupial carnivore. It has a characteristic, black, bushy 'bottlebrush' tail.

Conservation status in NSW: Vulnerable

Sources: NSW Government Office of Environment & Heritage, Squirrel Glider - profile, accessed 10 November 2023; NSW Government Office of Environment & Heritage, Koala - profile, accessed 10 November 2023; NSW Government Office of Environment & Heritage, Brush-tailed Phascogale – profile, accessed 10 November 2023.

3.5.2 There is substantial variation in traded credit prices

An examination of the 3 most traded ecosystem Offset Trading Groups and species credits reveals substantial price differences when comparing trades of the same credit. Figure 3.13 shows the distribution of prices for these credits,

For White Box – Yellow Box - Blakely's Red Gum Grassy Woodland, market prices ranged from approximately \$400 to \$11,000 per credit, marking a 27-fold difference between the minimum and maximum prices. Similarly, Squirrel Glider credit prices varied from approximately \$200 to \$1,000, representing a 5-fold difference between the minimum and maximum traded values.



Figure 3.13 Price variability of top traded credits

Note: Prices shown are in \$2022–23 terms, using all years of available data. The vertical lines represent the range of prices traded for each credit, including maximums and minimums. The grey rectangles represent the upper quartile, and blue rectangles represent the lower quartiles. Median prices are shown as the point at which the grey and blue rectangles meet.

Source: IPART analysis, using data from the Department of Planning and Environment.

While these figures indicate substantial price variation, it is likely that not all transactions included within this range represent competitive market trades. Some transactions included in the data are 'internal transactions' – i.e., transactions between related parties that are not priced according to the competitive market rate.

) Transaction data does not tell the full story

Market data includes all transactions. Related party transactions are not identified separately within the dataset.

3.5.3 Credit price variation may reflect some underlying supply costs

The variation in credit prices can be partially explained by:

- how widely available the biodiversity is
- variation in land prices
- differences in Biodiversity Stewardship Agreement management costs.

In a well-functioning market, we would expect these outcomes. However, caution is needed in interpreting the data due to the dominance of the Biodiversity Conservation Fund Charge System. Each of the above factors influences the Fund charge, suggesting the market may not have independently considered them.

Figure 3.14 shows the spatial distribution of 3 ecological communities, and the weighted average market price for the corresponding credits. The data shows that the price does not reflect the classification of credits as endangered or critically endangered ecological communities.

Figure 3.14 Spatial distribution of selected high conservation value ecological communities and weighted average market prices for corresponding credits



Known presence Predicted presence

Map source: Office of Environment and Heritage.

Market price source: IPART analysis, using data from the Department of Planning and Environment.

a. Prices shown are in \$2022-23 terms, using all years of available data. Excludes outliers outside the 15 interquartile range.

b. The spatial distribution represents the areas where an ecological community is known or predicted to occur. This does not represent the spatial distribution of credit supply of these ecological communities.

) Potential issues with causation

Caution should be exercised in interpreting variation in credit prices as a marketdriven outcome. Biodiversity availability, land value and management costs are each factors in the Fund charge, which remains the dominant determinant of prices in the market. Figure 3.15 displays the top 10 Interim Biogeographic Regionalisation for Australia (IBRA)^a subregions with the highest average price per credit. This is based on market transaction data since the Scheme began until 30 June 2023. Among these, 5 are in the Sydney Basin IBRA bioregion, which is known for higher land values due to its proximity to metropolitan Sydney.



Figure 3.15 Top 10 IBRA sub-regions by highest average credit prices

Source: IPART analysis, using data from the Department of Planning and Environment. a. Prices shown are in \$2022-23 terms, using all years of available data.

Land management costs in Biodiversity Stewardship Agreements vary based on land size and location. The management cost is estimated based on the Total Fund Deposit of a Biodiversity Stewardship Agreement, which is meant to be representative of the costs of managing the land as set out in the Agreement.

In Greater Sydney, smaller stewardship agreements for sites under 30 ha can have management costs that are more than 4 times higher than those for larger stewardship agreements for sites over 100 ha. Outside Greater Sydney, these differences could be even bigger, with agreements for sites under 30 ha having management costs that are nearly 17 times more expensive per hectare than those for more than 500 ha. Figure 3.16 shows the variation in average management costs per hectare based on land size and location covered under Biodiversity Stewardship Agreements.

^q The Interim Biogeographic Regionalisation for Australia classifies areas of Australia's land according to common environmental characteristics. There are 18 bioregions completely or partially located in NSW, and each can be further divided into subregions.



Figure 3.16 Average land management costs in Biodiversity Stewardship Agreements by land size and location

Source: IPART analysis, using data from the Biodiversity Conservation Trust.

a. Prices shown are in \$2022-23 terms, using data up to May 2023. There is no data for Total Fund Deposit amounts in Greater Sydney for Biodiversity Stewardship Agreements for more than 200 ha.

Finding

7. Credit prices are highly variable, even for the most frequently traded credits in the market. Not all this variation is explained by underlying differences in the costs associated with Biodiversity Stewardship Agreements.

3.6 There is an imbalance of demand and supply in the market

While the number of market transactions in 2022–23 grew significantly from 2021-22 levels, there are persistent imbalances between credit demand and supply. These imbalances manifest in 2 ways:

- credit types: the types of credit traded in the market (i.e. within discrete ecosystem Offset Trading Groups and species credits)
- geographic regions: the IBRA sub-regions where they are traded.

The nature of this imbalance differs between ecosystem Offset Trading Groups and species credits. Based on the available information, in total supply is over 5 times higher than estimated demand for ecosystem credits. Conversely, total supply of species credits is roughly three-quarters that of estimated total demand. The available information suggests that supply is poorly matched to demand for credits traded on the market for most credit types. Figure 3.17 compares the available information on supply and demand for the top 3 most demanded ecosystem Offset Trading Groups and species credits.



Figure 3.17 Supply and demand for top 3 most demanded ecosystem Offset Trading Groups and species credits

Note: Demand figures are based on Department of Planning and Environment forecasts using approved major projects with a Biodiversity Assessment Method obligation, including major projects with obligations transferred to the Trust (as at December 2022). These forecasts exclude offset obligations from other types of development and clearing proposals. There may be inaccuracies in the demand volumes captured in these figures. Unacquitted obligations transferred to the Biodiversity Conservation Trust between December 2022 and July 2023 have been added to demand figures estimated by the Department.

Source: IPART analysis, using data from the Biodiversity Conservation Trust and Department of Planning and Environment.

) Inconsistencies between supply and demand data

The available data does not provide a full picture of the supply-demand balance in the market. There may be inaccuracies in demand and supply data due to differences in the information they capture.

The available information limits our ability to draw accurate conclusions on the supply of credits relative to their demand. Data on the demand and supply registers are not collected on a like-for-like basis. As a result, the datasets are not fully comparable.

Comprehensive demand data is not readily available, as registering demand within the public register is voluntary. We have estimated demand based on various data sources. We have considered Department forecasts using approved major projects with a Biodiversity Assessment Method credit obligation, as well as obligations held by the Trust.

The supply register includes all credits generated. However, it does not differentiate between credits available for purchase, and those that have been earmarked for a specific buyer, or those that have already been sold but are yet to be retired. In our analysis, we combined information from various data sources to build an estimate of supply that excludes credits already purchased yet to be retired.

It is difficult to estimate exactly how many credits on the supply register have already been earmarked for specific buyers – though Taskforce indicates that this figure may be high. Of the 42 Biodiversity Stewardship Agreements established in 2022–23, the majority were to provide credits to the market, rather than retire credits for the stewardship agreement holder's own offset obligations.²⁰ However, of the 80 applications for Biodiversity Stewardship Agreements that were in progress, the majority were proposed for the purpose of retiring credits for the prospective stewardship agreement holder's own offset obligations.

We have heard from stakeholders that some development proponents assume presence of species at the offset assessment stage, because it is quicker and less expensive to offset species obligations, compared to undergoing the rigorous process of determining whether species are present. This may mean that this kind of behaviour is occurring in the market. If it is occurring, these high costs of offset assessments would lead to higher demand for species credits in the market.

The imbalance of supply and demand in the market may disproportionately impact regional areas (see Box 3.3).

Box 3.3 Lack of credit supply has a disproportionate impact on regional development costs

Several submissions to our Issues Paper raised concerns about the scarcity of biodiversity credits and the costs of biodiversity offsets in regional NSW, and the effect this has on regional development.^a

The Housing Industry Association's NSW Planning and Environment Committee stated that the scarcity of affordable credits in Western NSW forces proponents to pay into the Biodiversity Conservation Fund to acquit their obligations. It also suggested that major infrastructure projects tend to purchase all available credits before they are available in the market.^b

Local Government NSW submitted:

The main hindrance to Iregional] development is high offset costs, which are disproportionate to the costs of the projects and the price of land, making many developments unviable. For example, an area of industrial land in Gilgandra had a credit obligation representing 57% of the total current sale price, on top of costly assessment processes. It is not feasible to pass this substantial cost onto purchasers, as happens in urban and coastal areas where the high demand for land means the offset costs form a much smaller proportion of the final price.^c

The NSW Aboriginal Land Council raised a similar issue for Local Aboriginal Land Councils (LALCs) in its submission to the Independent Review of the Biodiversity Conservation Act:

The introduction of the [Biodiversity Conservation Act] and the obligations under the BOS [Biodiversity Offsets Scheme] have exacerbated the barriers to development of LALC land, with many LALCs unable to afford the costs of offsetting the development of their site.^d

Box 3.3 Lack of credit supply has a disproportionate impact on regional development costs

The Independent Review of the Biodiversity Conservation Act also stated it "heard a strong and clear message from many stakeholders, including regional representatives, that the Scheme is adversely impacting the delivery of priority housing and job creation opportunities".^e The Review did not offer any targeted recommendations around biodiversity offsets in regional NSW, which reflects the complexity of the issue.

Sources:

- a. See for example Central NSW Joint Organisation submission to IPART Issues Paper, August 2023; Country Mayors Association of NSW submission to IPART Issues Paper, July 2023; Housing Industry Association submission to IPART Issues Paper, August 2023.
- b. Combined Development Group Pty Ltd submission to IPART Issues Paper, July 2023, p 7.
- c. Local Government NSW submission to IPART Issues Paper, August 2023, p 24
- d. Independent Panel, Independent Review of the Biodiversity Conservation Act 2016 Final Report, August 2023, p 28.
- e. New South Wales Aboriginal Land Council submission to Independent Review of the Biodiversity Conservation Act, April 2023, pp 8-9.

Chapter 4 🕻

Competition and pricing in the market

How well does the market bring together supply and demand to establish efficient prices?



In a well-functioning market, market prices would signal the cost of offsetting impacts on biodiversity. Prices for the different types of credits would rise or fall based on the demand and supply balance. But inadequate competition, the influence of government interventions or the actions of major market players can mean market prices may not achieve this balance. Healthy competition is integral to ensuring that the market develops effectively, and that unhealthy price-taking or price-making behaviours are avoided.

A fundamental part of achieving healthy competition is considering whether government interventions in the market have had unintended consequences. The nature of the credits market means that ongoing government intervention is likely to be needed to help the market to operate efficiently. However, it is important that both the aims and actions of interventions align with the objective of promoting competition.

This chapter presents our findings and recommendations in relation to competition in the biodiversity credits market.

4.1 Key points in this chapter

Government interventions that support the proper functioning of the market are key to fostering an effective and efficient market. Government interventions should aim to make entry to, and trading in, the market easier and more efficient, and not be designed to lower credit prices for proponents below the cost of offsetting biodiversity. Interventions should also instil confidence in the market and the outcomes it can achieve.

Giving proponents the option to pay into the Biodiversity Conservation Fund means development proponents have a guaranteed supply of credits. Continuing to provide this option means biodiversity can de destroyed without offsetting, which is inconsistent with the purpose of the Scheme. It risks the extinction of species and ecosystems and undermines confidence in the Scheme.

The Fund pay-in option prevents the market from establishing equilibrium prices that match the supply of credits with their demand. This stops the market from signalling the cost of offsetting biodiversity impacts to development proponents. This lack of price signals reduces incentives for development in areas with lower environmental impact, undermining the market's function and Government biodiversity conservation objectives.

The Fund charge, which is designed to approximate market prices, also undermines the Taskforce's ability to improve market functioning by facilitating auctions that could allow the market to settle a competitive price.

The Trust does not face the same market imperatives as a development proponent. Offset obligations transferred to the Trust are not equivalent to credits bought directly by proponents.

The accelerated growth in payments into the Fund has lessened competition in the market. The Trust's dominant position has reduced the number of active buyers and consolidated its own market share. This poses a substantial threat to market competition now and in the future. In addition, if the Trust's acquittal of the liabilities held in the Fund is not carefully managed, it may create further distortions in the market.

The problems created by the Fund pay-in option can only be addressed by phasing out the option altogether. To ensure this does not have adverse impacts on the supply of housing and infrastructure, we recommend that interim measures are put in place to reduce development proponents' reliance on the Fund.

4.2 The nature of government intervention in the market influences competition and price

In an effective market, prices move freely to allow the supply of a product to increase or decrease until it roughly equals demand for the product. The biodiversity market differs from a typical market in that the demand for the product is driven by a mandatory statutory requirement and supply of the product by private landholders is voluntary. In addition, there is a continuous demand for new credits as development occurs to support our growing population but there is finite supply of land for biodiversity conservation. In this context it is critical that the market freely operates to establish prices that reflect these competing priorities.

Allowing the market to set prices based on supply and demand is necessary for the Scheme to meet its objectives. A price set in the market allows biodiversity conservation to occur at minimum cost, as land with lower-value alternative uses will be conserved first. It also gives proponents incentives to avoid and minimise biodiversity impacts and to develop in areas where credits are cheaper and easier to obtain. A well-functioning market would limit development that impacts scarce or threatened species, ultimately preventing their destruction, because the credits they require are expensive or difficult to find.

Government interventions that support the proper functioning of the market are key to fostering an effective and efficient market. Government interventions in the market should prioritise facilitating trading, reducing transaction costs and removing barriers to participation over keeping the cost of offsetting biodiversity impacts as low as possible. Government interventions should aim to make entry to, and trading in, the market easier and more efficient, and not be designed to lower credit prices below the cost of offsetting biodiversity.

In addition, Government interventions that establish effective governance arrangements and monitor adherence to them give participants the confidence they require to transact in the market. In its submission, ICAC noted that inadequate governance arrangements undermine confidence and introduce the risk of corruption.²¹ Both are incompatible with a properly functioning market. Governance arrangements in the market are further discussed in Chapter 8.

The aim of an intervention and its implementation is important. The Australian Government's intervention in the wool market during the 20th century provides a good example of a government intervention that was well-intentioned but had an adverse impact on the market rather than supporting it (see Box 4.1).

Box 4.1 The Australian Wool Reserve Price Scheme

The Australian Wool Reserve Price Scheme was a price floor scheme for wool that operated in Australia between 1971 and 2001. It was set up by The Australian Wool Corporation (a government body). Its aim was to smooth out fluctuations in the price of wool.

The Australian Wool Corporation would buy wool if its value fell below a set 'floor' price, to sell later when the market recovered. The Scheme was funded by a levy on wool sold by growers.

The Scheme was successful early in its initiation. However, when prices rose in 1987, largely because of a fall in the Australian dollar, the wool industry set a floor price that was unsustainably high. When prices fell in 1989, the Australian Wool Corporation was reluctant to reduce the floor price. This incentivised wool producers to produce too much wool, resulting in a large stockpile and the Australian Wool Corporation went into debt to continue buying excess wool to sustain the market.

During the price collapse, the Australian Wool Corporation held an accumulated stock equivalent to a year's output from the industry. Selling the stockpile required the establishment of several new entities and took 10 years.

Due to various factors including an inappropriate buy-back price and an excess of wool stock, the wool market collapsed. This almost wiped out the market and sent many of Australia's woolgrowers broke.

There are some parallels between the Australian Government's intervention in the wool market during the 20th century and the Biodiversity Conservation Fund in terms of both their aims and implementation.

Sources: Abbott, M and Merrett, D, '*Counting the cost: the reserve price scheme for wool 1970–2001*', The Australian Journal of Agricultural and Resource Economics, Vol. 63, Issue 4, September 2019, pp 790–813; Bardsley, P, '*The collapse of the Australian Wool Reserve Price Scheme*', The Economic Journal, Issue 104, September 1994.

Finding

8. Government interventions that support the proper functioning of the market are key to fostering an effective and efficient market.

Recommendation

 Government interventions should prioritise facilitating market participation, maintaining integrity and instilling confidence in the market over keeping the cost of offsetting biodiversity impacts low.

4.3 The Biodiversity Conservation Fund is undermining the market

A 2022 Audit Office of NSW review into the effectiveness of the Scheme found that credit supply and demand were not well matched in the market.²² The Audit Office also noted that the Fund charge was operating as a low ceiling in the market, potentially limiting the supply of credits and preventing landholders from recovering their costs through the sale of credits.

A market-based approach to biodiversity offsetting is central to the Scheme's operation but credit supply is lacking and poorly matched to growing demand: this includes a potential undersupply of in-demand credits for numerous endangered species.

Audit Office of NSW, August 2022

Both issues identified by the Audit Office remain key problems within the market. This is discussed in more detail in this section.

We note that the Biodiversity Conservation Fund is only one of the Biodiversity Conservation Trust's many functions in the biodiversity credits market. The important role that the Trust plays in NSW biodiversity conservation is further described in Box 4.2.

Box 4.2 The broader role of the Biodiversity Conservation Trust

The Biodiversity Conservation Trust was established in August 2017, as part of the NSW Government's biodiversity conservation reforms, to encourage and support landholders across NSW to participate in private land conservation. The Trust's core business is private land conservation. Landholders can apply to enter various types of wildlife refuge or biodiversity conservation agreements through a range of programs and delivery mechanisms offered by the Trust.

As well as supporting private land conservation, the Trust also undertakes other functions to support biodiversity conservation in NSW such as education, landholder support, and promoting citizen science.

Across its programmes in 2022—23, the Trust invested \$70 million to protect 226,240 hectares of land and 199 threatened species through agreements with 420 private landholders.

The Biodiversity Conservation Trust also plays several roles in the Biodiversity Offsets Scheme:

- The Trust manages and ensures landholders' compliance with their Biodiversity Stewardship Agreements, for example whether they are undertaking actions set out in their management plan.
- The Trust manages the Biodiversity Stewardship Payments Fund to make annual biodiversity stewardship payments to Biodiversity Stewardship Agreement holders.
- Development proponents can choose to pay into the Biodiversity Conservation Fund to meet their offset obligations. If they do so, the Trust will secure biodiversity credits or fund biodiversity conservation actions on behalf of the proponent.
- Governments can commission and fund the Trust to acquire biodiversity credits under place-based offsets schemes.
- The Trust provides a credit price estimation service for biodiversity credit market participants.

Sources: *Biodiversity Conservation Act* 2016, part 10; NSW Biodiversity Conservation Trust, *Annual Report Financial Year* 2022–23, October 2023.

4.3.1 The Biodiversity Conservation Fund pay-in option provides a government credit guarantee to development proponents

A well-functioning market would deliver on desired biodiversity outcomes. This would mean ensuring that development was directed to areas where it would have a lower environmental impact – for example, infill development rather than greenfield development on Sydney's fringe. It means the market would also prevent development from occurring that would result in the extinction of species and/or the complete destruction of ecosystems.

Because the Fund effectively guarantees the supply of credits to proponents, it undermines the market and the Scheme. Stakeholders provided anecdotal evidence that many Biodiversity Stewardship Agreements established to date utilise parcels of land with limited alternative economic uses. This could indicate that some credit prices do not account for opportunity cost (the loss of value of not using the land for alternative income-earning activities). Over the long term, the development of land will continue but the supply of land available for conservation remains fixed. This will put upward pressure on the price of credits as land with higher value alternative uses will increasingly be required for conservation.

The market should adjust to these factors by adjusting the price of credits to match available supply with demand. But the nature of the Fund pay-in option suppresses this and as a result, is an unsustainable intervention.

The integrity of the Biodiversity Offsets Scheme is being compromised by payments being made into the Biodiversity Conservation Fund rather than credits being sourced directly. The balance standing in the fund is continually growing.

Independent Review of the Biodiversity Conservation Act 2016 – Final Report, August 2023

Finding

9. The Biodiversity Conservation Fund effectively operates to guarantee the supply of credits for a development proponent even where the biodiversity loss cannot be offset.

4.3.2 There is evidence that the Biodiversity Conservation Fund charge dominates market prices

The Fund provides development proponents with an expedient means of meeting their offset obligations without needing to find and purchase credits in the market or establish their own Biodiversity Stewardship Agreement. The Fund charge represents the maximum price proponents are willing to pay for credits. If development proponents expect the market price to be below the Fund charge, they will consider entering the market. If not, they will not spend time and resources participating in the market and will choose the Fund pay-in option instead.

Currently, the pay-in option is constraining the market from freely setting a price. If the Fund payin option is allowed to continue to lead the market, the Fund charge will increasingly prevent the market from establishing prices that reflect the supply of, and demand for, the different types of credits. Recent changes to the charge method have seen some Fund charges increase. However, to the extent this has helped generate additional supply, any benefits are likely to be short term.

As demand for credits rise and land for conservation becomes harder to find, the price of credits will need to rise. Land that is needed for credit creation will increasingly need to come from areas with higher-value alternative uses. Policy changes that seek a 'nature positive' approach (as suggested by the statutory review panel),²³ the introduction of a Commonwealth biodiversity scheme,²⁴ and continued land clearing and development will all raise the demand for biodiversity conservation.

If the Trust, rather than the market, determines the price of credits the market will be prevented from delivering its intended outcomes.

Many stakeholders submitted that the Fund charge continues to set an unsustainable price ceiling in the market.²⁵ The Environmental Defenders Office drew on anecdotal evidence from landholders who reported being unable to complete transactions directly with potential credit buyers, or in some cases, being unable to compete with the Fund charge.²⁶ Our analysis of the available market data and corresponding Fund charges supports this view.

A clear alignment between market prices and Fund charges, in combination with the imbalance in supply and demand, strongly suggests that the market is not free to adjust prices in response to the supply and demand balance of credits in the market.

The Trust states "The BCF [Fund] Charge System will only set credit prices for development proponents seeking to make a payment into the BCF. The Trust does not intend for the BCF Charge System to set broader market pricing".²⁷ However, in practice, the Fund charge plays a major role in influencing prices in the market, and the likelihood of development proponents seeking to participate in it. The Fund charge provides a price that development proponents can use to compare with other offset options, including the costs and benefits of generating their own credits or buying credits within the market.

If a proponent is willing to pay the quoted Fund charge, the Trust cannot refuse a payment into the Fund. This option is open to proponents seeking all types of credits, including where a ready supply is available in the market, and for rare credits that may be unavailable or hard to find.

Purchasing credits from the market and making payments into the Fund are not equal options. The Fund pay-in option is inherently less complex than trading directly in the market. The process of finding available supply, contacting sellers, negotiating prices and completing transactions can take up to 6 months (or longer, as reported by some stakeholders). In contrast, the process of getting a Fund quote and paying into the Fund can be completed in as little as one month for small to medium sized obligations.²⁸ This means that Fund charges would need to be substantially higher than market prices for proponents to have a strong incentive to buy credits directly from sellers in the market.

Figure 4.1 shows the weighted average market price of credits traded in the market in 2022–23, versus their corresponding Fund charge under the new charge system. The credits shown are the 3 most traded ecosystem Offset Trading Groups and species credits in the market. Together, they represent around 60% of the total credits traded on the market. As Figure 4.1 shows, the Fund charges for these credits are roughly equal to their average market prices.



Figure 4.1 Comparison of Biodiversity Conservation Fund charges with average market prices for the top traded credits in 2022–23

Source: IPART analysis, using data from the Biodiversity Conservation Trust and Department of Planning and Environment. a. Prices shown are in \$2022-23 terms.

b. Biodiversity Conservation Fund charges shown above refer to charges under the new Biodiversity Conservation Fund Charge System, and exclude the delivery fee and risk premium. The weighted average market price considers transaction data from 2022–23 only and excludes transactions involving the Biodiversity Conservation Trust.

The market prices shown in Figure 4.2 represent a weighted average of all market prices for each credit. However, as highlighted in Chapter 3, credits can be traded within extremely wide price ranges. In some cases, the difference between minimum and maximum prices is 27-fold. Figure 4.2 shows how Fund charges compare with the range of prices for which credits are traded within the market. Clearly, Fund charges are still closely aligned to market prices. In fact, for most of the credits shown in Figure 4.2 the Fund charge is very close to the median market price.



Figure 4.2 Comparison of Biodiversity Conservation Fund charges with all market prices for the top traded credits in 2022–23

Source: IPART analysis, using data from the Biodiversity Conservation Trust and Department of Planning and Environment. a. Prices shown are in \$2022–23 terms.

b. Biodiversity Conservation Fund charges shown above refer to charges under the new Biodiversity Conservation Fund Charge System, and exclude the delivery fee and risk premium. Market prices shown consider transaction data from FY2022-23 only and exclude transactions involving the Biodiversity Conservation Trust.

We note that of the credits shown in Figure 4.2, only the Cumberland Plain Woodland Fund charges were capped under the transitional price cap rules. This indicates that Fund charges for this credit are likely to increase in 2023–24, but Fund charges for the other credits are less likely to substantially change.

Finding

10. The Biodiversity Conservation Fund pay-in option is inherently less complex than trading in the market, with lower transaction costs and fewer delays. This means the Biodiversity Conservation Fund Charge System price would have to be substantially higher than the market prices for proponents to have a strong incentive to buy credits from sellers in the market.

4.3.3 The Biodiversity Conservation Fund charge prevents the market from reflecting credit scarcity

The overarching message we heard from stakeholders is that the Fund pay-in option limits the extent to which the market can signal scarcity. Stakeholders expressed the view that proponents had little incentive to seek credits from the market, and that the Fund sent inaccurate price signals for the scarcity of credits. In relation to species credits, stakeholders argued that the Fund pay-in option allowed proponents to buy notional species credits at a price that did not represent the proven presence of that species.

Our analysis of the Fund charge system and its role in the market supports these stakeholder views. While the market has a pricing mechanism that supports the signalling of scarcity, its ability to do so in practice is constrained by the Fund pay-in option. This is due to several factors:

- The Trust acts as a guarantor of supply, allowing buyers to pay into the Fund whether or not supply for a credit is available.
- For most credit types, the applicable Fund charge is not directly adjusted for changes in supply.
- The Trust can hold its obligations until a future date when supply becomes available,^r or it can acquit its obligations using variation rules or other conservation actions if credits cannot be procured at a price roughly equal to the Fund charge. This allows the Fund charge to mask the signalling of scarcity that would otherwise be present in market prices.

Because of this, market participants have limited ability to effectively price the available supply of credits (or those likely to become available), which may result in buyers preferring to pay into the Fund.

Several stakeholder submissions to our Issues Paper reflected that the credits market does not support the preservation of biodiversity with high conservation status, because prices do not reflect its scarcity. Some stakeholders drew upon the concept of intrinsic biodiversity value and felt that the market was ineffective at pricing the 'intrinsic' or 'inherent' value of biodiversity, including the value of some Threatened Ecological Communities.

It is important to distinguish the conservation status (and intrinsic biodiversity value) of an ecological community from its scarcity. Some ecological communities with endangered status could be in high supply in the market. Equally, an ecological community with no endangered status could be present in low supply in the market. This may occur for several reasons, including the natural scarcity and spatial distribution of that ecological community, or the economic value of the land that it generally inhabits. It may also be driven by the nature of current development – no matter whether it is having an impact on these ecological communities.

For example, 'White Box – Yellow Box – Blakely's Red Gum Grassy Woodland' is listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)²⁹, but is the most frequently traded Offset Trading Group in the market. Similarly, the Koala has been listed as endangered since February 2022, but is the most highly traded species credit. The White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Koala have the highest supply among ecosystem Offset Trading Groups and species credits, respectively.³⁰⁵

The credits market should facilitate forming a market price for credits via balancing demand and supply. A key benefit of this is that it signals the scarcity of biodiversity – which is a contributor to the current and potential future supply of credits in the market.

^r Under the new charge system, a risk premium of 10-17% is applied to charges for most credit types. The risk premium aims to account for the risk that the Trust cannot acquit its obligations for the predicted charge. The risk premium accounts for the risk of price volatility, which could be influenced by a range of factors including changing levels of supply. However, for most credit types, charges paid by proponents do not respond to changing supply in the market. This is with the exception of 2 Offset Trading Groups: Cumberland Plain Woodland and River Flat Eucalyptus, for which Fund charges are calculated using a statistical model.

⁵ Analysis is based on a combination of credits currently in supply, and expected future supply as reported by Biodiversity Stewardship Agreement expressions of interest and Biodiversity Stewardship Agreements pending review.

Findings

- 11. The Biodiversity Conservation Fund prevents the market from determining prices based on relative supply and demand, and from signalling scarcity. If the Biodiversity Conservation Trust, rather than the market, determines the price of credits, the market will be prevented from delivering its intended outcomes.
 - 12. In 2022–23, the Biodiversity Conservation Fund Charge System prices were generally in line with average market prices for the most frequently traded credits.

4.3.4 There is evidence of an imbalance of supply and demand in the market

Current market prices are not based on a balancing of supply and demand within the market. The proximity of the Fund charge to average market prices alongside this imbalance indicates that the market is being prevented from functioning effectively.

In Figure 4.3, the left-hand chart shows corresponding demand and supply levels for different ecosystem Offset Trading Groups and species credits in the market. The right-hand chart groups this same data based on IBRA sub-region.¹ In a well-functioning market, demand and supply would be expected to be relatively balanced, and most data points would tend towards the diagonal market equilibrium line. However, in the biodiversity credits market, most data points lie far from the market equilibrium line. This indicates that for most credit types, demand and supply are substantially imbalanced. Similarly, only a few IBRA sub-regions have balanced levels of demand and supply of credits.

^t IBRA sub-region refers to the classification of areas of Australia's land according to common environmental characteristics (see Glossary for more information).



Figure 4.3 Demand and supply of credits in the market

Source: IPART analysis, using data from the Biodiversity Conservation Trust and Department of Planning and Environment. Note: Demand figures are based on Department of Planning and Environment forecasts using approved major projects with a Biodiversity Assessment Method obligation, including major projects with obligations transferred to the Trust (as at December 2022). These forecasts exclude offset obligations from other types of development and clearing proposals. There may be inaccuracies in the demand volumes captured in these figures. Unacquitted obligations transferred to the Biodiversity Conservation Trust between December 2022 and July 2023 have been added to demand figures estimated by the Department.

The demand and supply imbalances shown in the figure above may be further exacerbated by the Scheme's like-for-like offset rules, which require ecosystem offset obligations to be offset with credits that are from the same or adjacent IBRA sub-region as the impact.³¹

As a result of the imbalance between demand and supply, the market remains in disequilibrium and full market clearing is prevented.⁴ Market clearing is an indicator of the effective functioning of a market. In the context of the credits market, market clearing is essential for ensuring that landholders do not incur financial losses from unsold credits, and proponents can offset their obligations at a price that signals the available supply of land for conservation.

Finding

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13. The supply of credits in the market is poorly matched with demand - in terms of the types of credits needed, and the locations where they are in demand.

^u Market clearing is the point of balance between demand and supply where there is no surplus or shortage of the item being traded.

4.4 The Biodiversity Conservation Fund pay-in option makes other market interventions less effective

The activities of the Taskforce have the potential to improve competition in the market, however, the influence of the Fund pay-in charge limits its ability to do so.

The Credits Supply Taskforce was established in July 2022 with the aim of fast-tracking the supply of in-demand biodiversity credits. Broadly, the Taskforce's functions are to:

- assess and approve new Biodiversity Stewardship Agreement applications, and fast-track the application process for landholders generating priority credits (i.e., credits most likely to be in demand)
- operate the Biodiversity Credits Supply Fund, and purchase known in-demand credits up front and sell them to proponents
- contribute to regional-level conservation objectives and a cohesive biodiversity strategy for the State.³²

In purchasing in-demand credits up front, the Taskforce states its aims are to lower the cost of biodiversity credits, reduce the need for development proponents to pay into the Fund, and improve liquidity and confidence in the market.³³

Theoretically, the intervention of the Taskforce should elicit a true market price without guaranteeing the supply of credits to development proponents. However, the Taskforce process is affected by the existence of the Biodiversity Conservation Fund charge. To succeed, a reverse auction must offer prices that are substantially lower than the applicable Fund charge, to attract development proponents to participate in the process. Sellers who bid at any rate higher than this are automatically unsuccessful.

Reverse auctions can be good for competition if they are conducted in a way that elicits a market-based outcome. In an effective reverse auction, prices reflect the market price based on the demand and supply of participants. This equilibrium price represents the price at which buyers are willing to purchase credits, and sellers are willing to supply credits – such that market clearing occurs. However, to reach this equilibrium price, price mechanisms must be enabled to freely adjust based on bid and offer prices – without the imposition of an artificial ceiling.

When the Taskforce runs its reverse auctions, it uses the applicable Fund charge as a reference price, and only procures credits at a price sufficiently below this charge. This is necessary under the current system, as development proponents are unwilling to pay more than the Fund charge. In effect, the Fund charge acts as the ceiling price in the auction. This is to ensure that credits buyers have an incentive to participate in the auction, rather than making payments into the Fund. As discussed earlier in this chapter, many stakeholders felt that the Fund charge was too low to enable sufficient cost recovery, and felt that it had the effect of suppressing market prices.³⁴ If the Taskforce's auctions aim to procure credits below this price, then the reverse auctions could pose the risk of exacerbating the impact of the Fund charge on the market. Many stakeholders noted this effect.

While the Fund pay-in option is available, the Taskforce's auctions will not deliver true marketbased prices. Considering this, we have made recommendations to reposition the Trust's Fund operations in the coming years, and to align the objectives of the Taskforce in response to its changing function. These recommendations are outlined further below in Section 4.6.

Findings

- 14. The Credits Supply Taskforce plays a very useful role in the market, however the effectiveness of the Taskforce is constrained by the existence of the Biodiversity Conservation Fund Charge System. The Biodiversity Conservation Fund Charge System price prevents the reverse auction process from delivering competitive outcomes by imposing an artificial price ceiling on bids.
 - 15. If the Biodiversity Conservation Trust incorporates reverse auction price outcomes into the Biodiversity Conservation Fund Charge System, it creates a circular dynamic that may place additional downward pressure on market prices.

4.5 The Biodiversity Conservation Trust's increasing market share is problematic

The value of payments made into the Biodiversity Conservation Fund have exceeded direct market transactions every year since the Scheme began. In fact, as of July 2023 the total value of payments made into the Fund was almost 20% higher than the total value of credits ever traded on the market.^{35v}

When proponents pay into the Biodiversity Conservation Fund, their individual market shares are consolidated and transferred to the Trust. This reduces the number of active buyers in the market, and increases the Trust's share as a buyer. There are 4 times more proponents who pay into the Fund than those who buy credits in the market. On the face of it, demand that is transferred to the Fund is demand that remains in the market. However, in practice this transfer of demand is significant and detrimental to market functioning.

Credit demand that is held by the Trust does not have the same characteristics as demand that comes directly from development proponents. When acting as a buyer, the Trust's behaviour is different to that of many development proponents needing offsets. Unlike a development proponent, the Trust is not obliged to buy credits within a particular timeframe of development occurring. The Trust also faces different financial objectives. Importantly, the Trust cannot compare different development options and decide to alter development plans based on credits prices – which is often a key driver of proponents' willingness to pay for credits.

v Transaction value comparisons are in \$2022-23 terms, and exclude transactions in the market involving the Trust.

Unlike development proponents, the Trust can also choose to delay purchasing credits based on prevailing market conditions. If the Trust does not buy credits in the market to acquit the credit liabilities it has taken on, the backlog of credit demand will have an impact on the ongoing effectiveness of the market. If the current accumulation of offset obligations is allowed to continue, biodiversity conservation objectives will not be met, and the Trust will face an increasingly difficult task to strike a balance between acquitting its offset obligations and maintaining a workable market for proponents. Unwinding this will become more complex over time and risk creating more problems in the market.

Since the Scheme began, the value of Biodiversity Conservation Fund payments and the number of credit obligations transferred to the Trust has increased steadily year on year. This growth in Fund payments over time is shown in Figure 4.4. There has been a notable increase in payments since mid-2021, which continued well into 2023. This indicates that there is rapidly growing interest from proponents in transferring their credit obligations to the Trust.





Source: IPART analysis, using data from the Biodiversity Conservation Trust. a. Prices shown are in \$2022-23 terms.

The unacquitted obligations in the Fund reflect a build-up of demand that needs to be met by the supply of credits created in the future. The supply of credits is constrained by their nature (given that land is finite). As the population of NSW grows demand will increase for housing, infrastructure and land for food production. The cost of credits will need to rise if new land is to be set aside for conservation. Every credit with a delayed purchase increases competition with proponents for scarce credits in the future.

The Trust has released an estimate of how much it would cost to acquit its obligations, along with a strategy for these acquittals.³⁶ Based on the current Fund charge and considering where it would need to seek variation credits (because like-for-like credits are not available) or undertake direct conservation actions, the current estimated cost is \$229 million. It will seek to purchase around 90% of these credits in the market but notes that it does not intend to purchase all of these in the coming year. The Trust's estimated value of credits to be purchased in the market is around double the value of all transactions in the market in 2022–23 (\$105 million).³⁷

Finding

- 16. The Biodiversity Conservation Trust's accumulation of offset liabilities:
 - a. reduces competition by increasing the Biodiversity Conservation Trust's market share and potential market power
 - b. puts delivery of biodiversity conservation at risk.

4.6 The Government should phase out the Biodiversity Conservation Fund pay-in option

The introduction of the Fund pay-in option helped facilitate offsets in the early stages of market development. It recognised the long lead time for landholders to enter the Scheme and to bring new supply of credits to the market. However, with the benefit of hindsight, evidence now suggests that this strategy harmed the development of competition in the market. The Trust's growing market share and its rising stock of credit liabilities suggest that this problem is growing.

It is important that development proponents' reliance on the Fund is reduced. It is imperative that the Government does not wait to see whether the market can function effectively before acting to reduce reliance on the Fund. As long as the Fund pay-in option is available, it will continue to stifle the market and limit competition. Ultimately, the Government will need to phase out the Fund pay-in option to allow the market to develop effectively.

At present the Fund pay-in option poses a major hindrance to developing competition in the market. Removing this option is necessary to achieve the objectives of the market and the Scheme more broadly. One of the key reasons for this is that the Fund guarantees the supply of credits for a development proponent, even where the biodiversity loss cannot be offset This prevents the market from informing where development or conservation actions occur and may allow the destruction of biodiversity without offset.

In our view, the Fund pay-in option should be phased out. Again, the Government should not wait until the market has developed before removing the Fund pay-in option – because such a scenario may never be achieved as long as the Fund option is available. As the Australian Wool Reserve Price Scheme example earlier in the chapter demonstrates, taking only small or overly conservative actions may not address policy issues at their root, and may instead delay problems until a later date.

Accordingly, we recommend that the Fund pay-in option be phased out from the market in the coming years. We consider that doing so would:

- improve competition through the active participation of more buyers in the market, and the removal of a single large entity with consolidated potential market power
- allow market price mechanisms to function freely and adjust to changes in demand, supply, consumer sentiment and other market factors
- enable price signals to reflect a more accurate cost of offsetting biodiversity, and would enable the market to more effectively inform development and conservation efforts across NSW

• allow the Taskforce's reverse auctions to achieve equilibrium prices that are independent of the charges set by the Trust.

Removing the Fund pay-in option must be done alongside an increase in Government interventions that support proponents to find credits in the market and that facilitate the creation of more credits. by landholders. We recommend that the Government continue to support the actions by the Taskforce, and that the Taskforce actively supports smaller development proponents to buy credits from the market.

Phasing out the Fund pay-in option is essential for the development of the market. However, it could have ramifications for the rate at which development occurs, and the cost at which biodiversity impacts are offset. The Government should consider a phase-out strategy that minimises sudden impacts on development resulting from the removal of the Fund pay-in option while still taking action as swiftly as possible.

Finding

17. While the Biodiversity Conservation Fund pay-in option is available, it will continue to stifle the market and limit competition.

Recommendation

2. The option for development proponents to pay into the Biodiversity Conservation Fund should be phased out.

4.7 Interim measures should be considered to reduce reliance on the Biodiversity Conservation Fund

Until the market improves, measures to remove or phase out the option to pay into the Fund are likely to impact development proponents who need to source credits within a required timeframe. Due to the complexity and cost of transacting in the market, the Government should put interim measures in place as early as possible to reduce proponents' reliance on the Fund pay-in. This should help encourage proponents to purchase credits in the market without creating delays in the provision of new housing and infrastructure.

Different options for doing this have been raised in previous reviews of the Scheme and by stakeholders.^w These options each have benefits and drawbacks. In our view, none is clearly superior, and a combination of measures may be needed.

For example, both the Parliamentary Inquiry into the Integrity of the Biodiversity Offsets Scheme and the Independent Review of the Biodiversity Conservation Act recommended to reduce access to the Fund by requiring proponents to demonstrate they have tried to seek credits on the market before allowing payment into the Fund. We heard from some stakeholders who thought the Fund charge should be increased.

4.7.1 Raising the Biodiversity Conservation Fund charge

Raising the Fund charge may help reduce reliance on the Fund, as it would increase the incentive for development proponents to purchase credits in the market. However, it does not address all the problems created by the Fund pay-in option and as a result, we consider should be viewed as an interim solution.

It is likely that a substantial increase to the pay-in charge would be required to make any real difference to the use of the Fund. The increases in Fund charges that have occurred since October 2022 do not appear to have reduced demand for the Fund pay-in option. Prices alone may also not be sufficient to deter development proponents, particularly where credits are otherwise unavailable. Experience in the NSW Energy Savings Scheme shows that many retailers elect to pay a higher penalty price rather than trade Energy Savings Certificates in the market, due to the relative ease of paying the penalty.³⁸

Erring on the side of lower charges, carries the risk that the desired outcomes of increasing the charge are not achieved. This is what occurred in the Australian Government's response in the Wool Reserve Price Scheme scenario where they modified the price to help address concerns but did not take sufficiently bold action early enough.³⁰ However, there is likely to be a challenge in gaining acceptance for substantial increases in price without a cost basis.

Setting a price high enough to allow the development of the market requires the Government to have extensive and reliable information on the supply of and demand for every type of credit in the market. Demand for credits will increase as development occurs to support population and economic growth. However, the supply of land for conservation is finite – meaning it is inevitable that the price of credits will rise over time. The market is well-placed to determine this price based on the supply of and demand for different types of credits and this is one of the benefits of moving away from government-estimated charges.

Raising the Fund charge may also have unintended consequences. Because the market suffers from a lack of information, the Fund charge may push up price expectations for suppliers. This creates a risk of suppliers committing significant funds to create credits only to find that credit buyers in the market are only willing to pay an amount that is substantially below this value. However, there are options that make this less likely. The Biodiversity Conservation Trust has undertaken a significant amount of work to implement its new charge method. The charge method is complex and uses the best available information to develop a price estimate for credits. There may be merit in retaining the new Fund Charge System methodology and using it to implement an approach like that proposed in the UK. There, the Biodiversity Net Gain scheme proposes to allow last-resort developer payments into a similar fund. But to do so, proponents must buy double the number of credits they require, effectively doubling their pay-in price.⁴⁰ This scheme has not yet commenced.

Raising the Fund charge could also create a new problem by giving the Trust additional potential power in the market. If the Trust seeks to acquit its credit obligations in the market, it may be able to out-compete proponents and push up market prices.

4.7.2 Setting Biodiversity Conservation Fund charges based on Government conservation activities

Alternatives to purchasing credits in the market are less likely to distort the market if they are based on the actual costs of conserving biodiversity. This is less arbitrary than an increase in the Fund charge that is not cost-based.

Our consultation and analysis indicate that many proponents do not see undertaking conservation themselves as a preferred offset option because holding and managing land in perpetuity is not consistent with their core business.⁴¹ If doing so is cheaper than buying credits in the market however, this is an efficient outcome. While the Fund pay-in option remains in place, the Trust could acquire land and directly undertake conservation activities (or do this via National Parks and Wildlife) rather than purchasing credits from private landholders. A charge that is based on the cost that the Trust incurs in acquiring land and undertaking conservation activities may be a more neutral option. This would also assist the Government in making decisions around what land is conserved, for example, providing funding to purchase strategic corridors. This aligns with the recommendation from the Independent Review of the Biodiversity Conservation Act to:

Consider allowing all land types to participate in the supply of credits, subject to strict application of transparent additionality principles. If public lands are used to generate credits, require independent review of the outcomes achieved, with public reporting.⁴²

On the other hand, direct conservation by government may not be a good long-term solution to the Fund pay-in issue because it does not leverage privately owned land, which represents around 70% of NSW's land area.

In addition, while this option would avoid the need for the Trust to second-guess what price landholders will accept for entering an in-perpetuity conservation arrangement it may not be straightforward in practice. It would be complex to administer as the biodiversity offsets from direct conservation activities will not match demand from development proponents and may lead to price volatility. It may also mean long lead times for paying into the Fund, which would reduce the key benefits of the Fund option.

4.7.3 Making the Biodiversity Conservation Fund harder to access

Making it a last resort for proponents to access the Fund is consistent with the recommendation of the Parliamentary Inquiry into the integrity of the Scheme that proponents should have exhausted all other market avenues before paying into the Fund.⁴³ It also aligns with the recommendation from the Independent Review of the Biodiversity Conservation Act to require proponents to demonstrate they have undertaken genuine and demonstrable steps to find like-for-like credits, before they pay into the Fund.⁴⁴

This option continues to guarantee supply of credits to proponents. Making the Fund harder to access would still allow development in areas where it impacts biodiversity where offset credits are not available, and ultimately would not prevent the extinction of species and destruction of ecosystems.

If it is harder for proponents to access the Fund, but Fund charges remain relatively low, proponents may still seek ways to pay into the Fund. It may be ineffective if supply in the market is not sufficiently supported. Unless there are interventions to increase supply in the market and help proponents to navigate it, this policy option will be toothless because proponents will be able to go straight to the Fund option in practice anyway.

When prices in the market are too low, landholders will not consider it worthwhile to generate credits on their land and sell them. Development proponents do not have any incentive to encourage potential credits suppliers into the market if they have the option to pay into the Fund at a cost-effective price. As such, requiring proponents to go to market first may not have the intended outcome of allowing the market to develop. It could also be difficult to monitor and enforce. The Government would need to have a strong definition of what constitutes going to market first, and a plan for how to ensure that potential credit suppliers have sufficient incentive to enter the market.

This measure would also leave the Trust with the most difficult credits to source. Under this option, the Government would effectively be taking on the obligations for the most expensive, or least available credits in the market.

4.7.4 Limiting access to the Fund for particular types or numbers of credits

The Government may also impose limits on the types of credit obligations that can be transferred to the Fund. This could include credits that are readily available in the market or those that are most difficult to source. For instance, Fund payments for Threatened Ecological Communities and endangered species may not be allowed. This measure can be combined with any of the above measures. However, again this requires the Government to have access to extensive, reliable and current information about which species and ecosystems may be rare or threatened. Also, if the Government allows Fund payments for credits that are most difficult to source it may leave the Trust with unacquittable obligations. As a result, it should also be viewed as an interim measure to reduce reliance on the Fund and should not be a long-term solution.

4.8 The Government must consider transitional issues with any change

Any major change has flow-on implications for market participants and poses the risk of introducing further uncertainty. The Government should consider this in the context of a transition strategy to phase out the Fund pay-in option. It is timely that the Government is currently considering its response to the recommendations of the Independent Review of the *Biodiversity Conservation Act 2016.* We consider that the phase-out of the Fund and any interim measures should form part of a comprehensive Government response. As a result, we have not made specific recommendations on the timing of the phase out or what the interim arrangements should be. However, we have noted key issues for the Government to consider.

The Fund phase-out strategy could include one of more of the following measures:

• putting a clear time frame on the date by which the Fund option will be discontinued so that development proponents and landholders can plan for the change

- raising the Fund pay-in charge by a substantial amount, or setting the charge based on the actual cost to government of acquiring and conserving biodiversity
- requiring proponents to first seek credits from the market before requesting to pay into the Fund with associated measures to encourage supply
- limiting the pay-in option to particular types of credits, or at least not allowing pay-in for credits that are likely to be difficult to find
- allowing payments into the Fund only in exceptional circumstances, such as for credits that have never been traded but are likely to become available in the coming years
- setting a cap on the number of credit obligations proponents can transfer to the Trust.

Whichever transition strategy the Government chooses, it will need to consider the impact of the changes carefully.

The method that the Trust uses to reduce the backlog of unacquitted credits is particularly important during this transition. This backlog is estimated to be around twice the annual value of transactions in the market.⁴⁵ As such, any sudden acquittal of all obligations could have a significant impact on the market if caution is not taken to minimise price impacts on participants.

The Independent Review of the *Biodiversity Conservation Act 2026* recommended that the Trust be required to acquit obligations within a set time.⁴⁶ While this may be helpful going forward, seeking to acquit all the acquired obligations by purchasing credits from the market, particularly within a short timeframe, is likely to have distortionary impacts. It is also unclear whether the Trust has sufficient funds to acquit all the obligations it has acquired within a specified timeframe.

The Trust is already one of the largest credit buyers in the market. Increasing the rate at which it purchases credits from the market risks crowding development proponents out of the market for increasingly scarce credits supply. This would be exacerbated by an increase in the Fund charge, which would allow the Trust to pay more for credits in the market relative to development proponents. This could make it more difficult and more expensive for development proponents in the future. It also further disconnects the market price from decisions about where and whether development should occur given the expected impact on biodiversity.

Preferable alternatives that would not distort the market to the same extent are to:

- allow the Trust to identify strategic corridors or conservation actions not covered in the market (i.e. not private land) so it does not compete with proponents for credits
- allow the Trust to work with the Taskforce to obtain credits through its reverse auctions that complete a seller's parcel of credits where there is no demand from current proponents.

Recommendations

3. The Government should put interim measures in place to reduce development proponents' reliance on the Biodiversity Conservation Fund.

4. The Biodiversity Conservation Trust should develop an appropriate strategy for reducing the backlog of unacquitted credits in the Biodiversity Conservation Fund that considers the potential impact of its actions on competition and prices in the market.

Chapter 5 发

Costs of entering the market

What impact do entry costs have on landholders' incentives to enter the market?



The biodiversity credits market's supply and demand characteristics set it apart from most other markets. Demand is established by the consent order conditions placed on development proponents.× For the market to function effectively, credit suppliers need to enter the market to generate the right number and type of credits to fulfil demand. In a well-functioning market, landholders can easily find out the type and number of credits they can generate to sell and the likely value of those credits in terms of scarcity and demand. Once they know this information, they can enter the market and begin selling credits.

In practice, landholders who own land with biodiversity value can face competing land use opportunities, each with its own costs and benefits. High Scheme entry costs can be a deterrent, with landholders opting to use their land for other purposes instead, especially if upfront costs, and the risks of recovering them, are high.

This chapter explores the costs and risks landholders face in entering the market and what impact they have on their decision to participate in the Scheme.

5.1 Key points in this chapter

High upfront costs and the risks of not recovering them are contributing to the supply-demand imbalance in the biodiversity credits market. However, the Credits Supply Taskforce's work program is addressing some of these and more landholders entered into Biodiversity Stewardship Agreements in 2022–23 than in previous years.

Landholders wanting to supply credits face substantial upfront costs to work out what credits they have and the business, legal, financial and tax implications of entering a Biodiversity Stewardship Agreement. Landholders incur these costs without certainty of future revenue. These upfront costs affect landholders' decisions to enter a stewardship agreement.

Once landholders have entered the market, they face further financial disincentives to selling certain low-value credit types because of the way the Total Fund Deposit payments are administered.

While landholders may eventually recover these costs when they sell their credits, the upfront nature of the costs, combined with the risks of not selling enough credits at a price sufficient to recover them, is a barrier to entry and a risk to supply.

In 2022–23, the Government made numerous changes to reduce upfront costs and risks for landholders. The Taskforce reduced the upfront costs of entering a Biodiversity Stewardship Agreement by waiving application fees and offering accredited assessments at no upfront cost for in-demand credit types, repaid on the sale of credits. Through its reverse auctions, it is also providing greater certainty to landholders that they can sell their credits quickly and at a price that covers their costs.

^x Some types of development require approval under the NSW *Environmental Planning and Assessment Act 1979* before they can proceed. A consent authority – either local council or the Minister for Planning – can impose consent conditions, including the need to retire biodiversity offset credits first.

There is evidence that the credit supply market has responded positively to these measures, with a 145% increase in Biodiversity Stewardship Agreements entered, compared to 2021–22. However, there is still a shortfall of in-demand credits supply to meet forecast demand, particularly for species credits.

We recommend that the Government continue its work program (currently carried out by the Taskforce) to reduce upfront costs and risks of entering the market.

5.2 High upfront costs are a barrier to entry

Setting up a biodiversity stewardship site involves several steps and landholders incur various upfront costs before they sell their first credits. These costs vary depending on the size and location of the land, specific nature of the biodiversity present and complexity of the agreement (see Box 5.1). Appendix C also contains a case study documenting Sydney Water's experience with the process of setting up stewardship agreements.

Box 5.1 Process for establishing a biodiversity stewardship site

Landholders interested in entering the market submit an expression of interest to the Credits Supply Taskforce. This is reviewed by the Taskforce to determine whether it is likely the site would generate credits that are in demand. The expression of interest is free and non-binding and helps the Taskforce identify and prioritise properties in areas with high credit demand.

Landholders are required to engage an accredited assessor to confirm the number and type of credits they could generate under a Biodiversity Stewardship Agreement. The Taskforce may offer this assessment at no upfront cost if they consider that the landholder has in-demand credits (based on their expression of interest). This is repaid when the landholder sells credits.

Once the landholder knows what credits can be generated, they can apply to enter a Biodiversity Stewardship Agreement, which the Taskforce assesses for technical and legal requirements

Once the agreement is established, the landholder can sell credits. The Taskforce may also buy credits from the landholder via its reverse auctions.

Source: NSW Department of Planning and Environment, Generate credits with a biodiversity stewardship agreement, accessed 5 December 2023.
5.2.1 It is expensive for landholders to determine what credits they have

Biodiversity Stewardship Agreements are costly to set up. The Biodiversity Stewardship Site Assessment Report to establish a stewardship site can cost \$30,000 to \$70,000 or more for land parcels of more than 1,000 ha, depending on the Plant Community Types present and the vegetation condition.⁴⁷ At our public hearing, one stakeholder commented that it can cost \$100,000 to establish a site and it took them 2 years to finalise their stewardship agreement.⁴⁸

This cost is largely driven by the complex nature of the Biodiversity Assessment Method, and the specific expertise and ecological integrity it requires. It is also influenced by how many accredited assessors operate in the market and the demand for their services. Often the Biodiversity Stewardship Site Assessment Report is preceded by a feasibility study or desktop review to indicate the potential of in-demand credits for the site. Even these can cost thousands of dollars^y, although they can avoid the cost of a more expensive, accredited assessment if they show that the site does not have potential to generate sufficient credits.

Table 5.1 Key costs landholders face when setting up a stewardship agreement

01	Preliminary feasibility study Landholders may undertake a feasibility study based on a desktop review of indicative costs, credit potential and supply-demand information. This is a lower cost method for determining whether it is worth pursuing a Biodiversity Stewardship Agreement application than a full accredited assessment.
02	Accredited site assessment This is a key cost component to determine exactly what credits the landholder can generate and management actions required. This is often the most significant cost landholders face, depending on the size and complexity of the site.
03	Legal and financial advice Landholders must seek their own financial, legal, tax and other professional advice regarding entering a Biodiversity Stewardship Agreement. This may include determining the opportunity cost of entering into a stewardship agreement; that is, the lost value from not using their land for another purpose.
04	Ecological site works Landholders may need to conduct revegetation works before their land is suitable for entering a Biodiversity Stewardship Agreement.
05	Administration fees Landholders must pay a Biodiversity Stewardship Agreement application fee ^a , and fees to procure certain supporting documents including a title search and mortgagee consent.

a This cost is \$2,600, although it was waived for the duration of the financial year. Source: NSW Department of Planning and Environment, Biodiversity Credit Pricing Guide, accessed 31 October 2023.

^y One stakeholder advised us that it cost them \$10,000.

The identification, classification and demarcation of Plant Community Types on a stewardship site by an accredited assessor requires substantial effort and therefore cost. Until landholders complete this step, they do not know exactly what type and how many credits they potentially have available to generate and sell. This is a substantial risk for landholders as they have no certainty that they will be able to sell enough credits to warrant the upfront cost of the assessment report. Even if credits are generated, there is no commitment or guarantee that they will sell all their credits, resulting in land being locked up in a Biodiversity Stewardship Agreement for no gain.

This is a substantial barrier to entry for landholders. In the face of these upfront costs, landholders have little to no incentive to be involved and participate in the market.⁴⁹ This particularly affects Aboriginal landholder participation in the market (see Box 5.2). These costs may also make the biodiversity credits market less economic than other competing options landholders may have in future, such as the Australian carbon credit units market and the national Nature Repair Market once it is established.

Box 5.2 Upfront costs and complexity discourage Aboriginal participation

Aboriginal people are key stakeholders in relation to biodiversity management and are a source of traditional ecological knowledge and land management expertise. Local Aboriginal Land Councils own and manage substantial holdings of land with biodiversity value. However, they have identified the high upfront costs, complexity of information and timeframes involved as significant barriers to entry.

In a joint submission to the Independent Review of the Biodiversity Conservation Act, the Awabakal, Biraban, Darkinjung, Illawarra, La Perouse, Metropolitan and Mindaribba Local Aboriginal Land Councils (LALCs) stated:

There are significant upfront costs of carrying out the necessary ecological surveys and the payment of the "total fund deposit" (TFD), an amount to be held by the Trust, to cover the ongoing costs of management of the land. The poorly structured and incomplete information about the market, produced by DPE and the Trust contributes to these upfront costs by creating uncertainty, which is a further barrier to LALC participation.^a

They also noted:

There is no way of ascertaining whether it makes financial sense to incur the significant costs (in excess of \$1 million including the Total Fund Deposit for even a small parcel of land) in order to enter into a Biodiversity Stewardship Agreement. This is because there is no way of knowing the potential worth or value of the credits to be generated.^b

Further, the NSW Aboriginal Land Council noted:

Box 5.2 Upfront costs and complexity discourage Aboriginal participation

The complexity of information available around the BOS means it is difficult to understand the benefits of the Scheme and the costs and requirements to establish and maintain Biodiversity Stewardship Agreements.

The lack of clear, targeted and tailored communication and support strategies for Aboriginal communities around BSAs/conservation agreements and the associated governance and compliance requirements.°

The Biodiversity Conservation Act review considered feedback from Aboriginal stakeholders and made several recommendations to improve government engagement with Aboriginal people and facilitate greater incorporation of Aboriginal knowledge.^d

With the first year of our review being more focused on getting an overview of the market, we have not specifically investigated barriers to Aboriginal people's participation in the market. However, we are committed to actively engaging with Aboriginal stakeholders in future reviews, to consider what impact this has on credit supply.

- a Joint Local Aboriginal Land Council submission to Independent Review of the Biodiversity Conservation Act, April 2023,
- b Joint Local Aboriginal Land Council submission to Independent Review of the Biodiversity Conservation Act, April 2023,
- d. Independent Panel, *Independent Review of the Biodiversity Conservation Act*, p 10.

5.2.2 Information asymmetries increase costs due to reliance on third parties

Landholders are often not well equipped to understand the complexity of the market and make decisions about the legal, financial and tax implications of entering into a Biodiversity Stewardship Agreement in perpetuity. They must often rely on third parties, such as financial or legal consultants, and their accredited assessor, to advise them, which increases market entry costs.

Accredited assessors may not be qualified to offer advice – they can lack the necessary expertise or their involvement in the market is limited to selected clients. There is also concern that accredited assessors may be conflicted in this role (see Chapter 8).

As one individual told us:

Assessors are accredited for their expertise as ecologists and not market experts. Accreditation is not an endorsement of expertise in econometrics, strategic planning, broking, taxation or business advice. Assessors may have conflicts of interest by representing more than one client, or as credit owners themselves.⁵⁰

As it is a niche market, with few trades, a limited number of skilled professionals are working in the accredited assessor and brokerage space to assist landholders in understanding the market and its viability. This contributes to the increased costs of obtaining information.⁵¹

Some stakeholders suggested the Taskforce could fill some of this information gap by providing dedicated ongoing support using a case management approach.⁹²

5.2.3 Revegetation works to improve land condition is often not economic

Landholders may need to conduct remedial works on their land, such as revegetation, before they can generate credits. These upfront costs are not recoverable via the Total Fund Deposit. At our public hearing, some stakeholders commented that there is currently no incentive to generate credits through land revegetation.⁵³ That is, undertaking conservation actions to improve the quality of ecosystems.

However, another stakeholder commented that this was because there is a lower calculated probability of the revegetated land meeting the benchmark of 'high quality' ecosystems, which is considered when assessing the credits that can be generated from a site.⁵⁴ Credits generated through revegetation would be less competitive in the market because fewer credits are generated per hectare of land.

In a well-functioning market, as land for generating credits becomes scarce and credit prices reflect all market information, it may become more economic for landowners to invest in revegetation works.

Finding

18. Landholders face high upfront costs to enter and begin trading in the market without certainty of future revenue. This is a barrier to entry, which contributes to the credit supply-demand imbalance.

5.2.4 Capital gains tax uncertainty reduces incentives to enter the market

Once landholders have established a Biodiversity Stewardship Agreement, they face additional financial disincentives before they have sold credits.

Financial gain from generating biodiversity credits is subject to capital gains tax. The capital gains tax event applies on the issue of credits or signing the Biodiversity Stewardship Agreement, based on estimated credit sales.⁵⁵ This is a disincentive to signing a stewardship agreement until the landholder has a buyer for most of their credits. It also puts the landholder at risk if the upfront agreed value of credits is higher than what the landholder receives when they sell them.

The Department of Planning and Environment has advised us that the Government has applied to the Australian Taxation Office for a class ruling to clarify current capital gains tax requirements. The class ruling would provide an authoritative source for landholders and their advisers and save time and money when preparing applications.

The Department of Planning and Environment is also engaging with the Australian Government about the possibility of changing the point of taxation for capital gains tax liabilities for Biodiversity Stewardship Agreements. This is in line with proposed reforms to the tax treatment for Australian carbon credit units and biodiversity certificates under the Nature Repair Market. If the proposed reforms were applied to the Scheme, they could address a key barrier and create a level playing field for government-led environmental markets. It is too soon to say what the outcome of these reforms would be on the market, and we will monitor this outcome in future reports.

Finding

19. The point of application of capital gains tax is a disincentive for some landholders and may make the biodiversity credits market a less competitive land use option than alternative schemes.

5.3 Shortfall payments reduce credit sellers' incentives to begin selling credits in some cases

Once a landholder has established a stewardship site, they may be liable for shortfall payments – before they have even sold enough credits to satisfy their Total Fund Deposit. The Total Fund Deposit is the amount of money set in a Biodiversity Stewardship Agreement to cover future land management costs. Total Fund Deposits are paid into the Biodiversity Stewardship Payments Fund when credits are sold.

If a credit seller sells less than the number of biodiversity credits created in respect of the biodiversity stewardship site, they must pay the relevant proportion of the Total Fund Deposit into the Biodiversity Stewardship Payments Fund, or the proceeds of sale of the biodiversity credits, whichever amount is the greater.⁵⁶

This means that if credit sellers sell credits for less than the average credit price across all the credits on their site, they must pay a top-up amount to the value of the average credit price. Where a credit seller has many types of credits on their site, they are liable for the shortfall payment if they sell the lower-value credits first (see Figure 5.1). Credit sellers may overcome this by bundling lower priced credits with higher priced credits. But this would depend on where there is demand for those credit types.

This provision is a safeguard to ensure that the Total Fund Deposit for a site is reached and the management plan is implemented. However, it may be a disincentive to selling lower-value credits – even if they are in high demand – until after the landholder has met their Total Fund Deposit. In practice, many species credits tend to be lower priced than ecosystem credits. This factor may be contributing to the 25% undersupply in species credits available to meet demand (see Chapter 3) and is something we will consider further in future reviews.



Figure 5.1 Simplified example of a shortfall payment requirement

20. The provisions of the *Biodiversity Conservation Act 2016* that safeguard the Total Fund Deposit disincentivise landholders from selling lower-value credits before they have met their Total Fund Deposit. This may be contributing to the supplydemand imbalance in lower-priced credits, such as certain types of species credits.

5.4 The Credits Supply Taskforce's work program is reducing upfront costs and risks

In 2022–23, the Taskforce began working to fast-track a significant increase in supply of priority biodiversity credits. It began overseeing the stewardship application process and sought to reduce the upfront costs of obtaining information for landholders by:

- introducing a free, no-obligation expression of interest process to identify and prioritise potential credit suppliers
- offering a biodiversity site assessment at no upfront cost for in-demand credits, repaid on sale of credits
- waiving the \$2,600 application fee (this waiver is in place until June 2024)
- simplifying the Biodiversity Stewardship Agreement template to make it easier to understand for landholders, potentially reducing some of the complexity that required landholders to seek legal advice
- conducting reverse auctions to provide greater certainty of credit sale and price to landholders upfront.

These actions appear to have had an impact with 2.5 times more stewardship agreements executed in 2022–23 compared to 2021-22 (see Figure 5.2). This is despite fewer site visits being conducted.



Figure 5.2 Biodiversity stewardship site visits and applications over time

Source: IPART analysis using data from Biodiversity Conservation Trust Annual Reports 2018-19 to 2021-22; Credits Supply Taskforce, Biodiversity Credits Supply Fund market update, October 2023; and data supplied to IPART.

) Change in way data reported over time

In 2022–23, the Credits Supply Taskforce took over processing Biodiversity Stewardship Applications from the Biodiversity Conservation Trust. There may be some differences in the way the Taskforce has reported these metrics for 2022–23.

The Taskforce also began developing an Aboriginal engagement strategy to ensure culturally aware and informed communication and engagement with First Nations landholders, business owners, communities and representatives of Local Aboriginal Land Councils.

The Taskforce's strategies appear to have increased stewardship activity. However, they have only been in place for a year, so it is too early to know which strategies are having the most impact. We expect that our future monitoring reports would show that the number of stewardship expressions of interest, applications and agreements executed continue to increase to meet demand. We also expect that site assessments would not necessarily increase at the same rate, indicating the success of a more targeted and cost-effective approach to identifying and procuring in-demand credits. For future reports, we would also be interested in stakeholders' feedback on which strategies have the most impact on landholders' incentives to enter the market.

In the meantime, we recommend that the Government continues its work program to reduce upfront costs and increase in-demand credit supply. This is consistent with the Independent Review of the Biodiversity Conservation Act statement that "more needs to be done to expand credit supply by assisting landholders to enter Biodiversity Stewardship Agreements.⁵⁷

Finding

53

21. The Credits Supply Taskforce's work program is reducing complexity, upfront costs and the revenue risks faced by potential credit suppliers.

Recommendation

5. The Government should continue its work program (currently carried out by the Credits Supply Taskforce) to reduce the upfront costs and risks of landholder entry and participation in the market.

Chapter 6 发

Availability of information

Is the right information available to participants when they need it?



Credit buyers and sellers need timely and accurate information to inform their market participation. Generating credit supply to match demand requires long lead times. In addition, landholders need to know what credits will be in demand in the future, and their value to the market, to decide whether entering the market will be economically viable. Credit buyers need to know what credit supply is available or can be generated, to determine whether they purchase credits in the market or use another means to meet their credit obligation.

Lack of access to timely, transparent information can be a barrier to credit supplier entry. It can result in an imbalance between supply and demand and cause development proponents to make inefficient offset decisions.

This chapter explores whether market participants in 2022–23 had access to the information they needed at the right time to inform their decision making.

6.1 Key points in this chapter

In 2022–23, market participants faced challenges accessing timely and accurate information on supply, demand, and prices to inform their decision-making. This affected landholders' ability to generate priority credits to meet demand, causing uncertainty and delay for credit buyers in meeting their offset obligations.

The information available on credit supply and demand from various sources, such as the Department, the Taskforce, and the Trust registers and dashboards, was inconsistent and incomplete.

The absence of accurate pricing information led market participants – particularly landholders and credit sellers – to rely on advice from third parties. This increased costs and put pressure on some of these entities to provide services outside their expertise. It also led to more credit buyers paying into the Biodiversity Conservation Fund, which limits market trading activity, in turn reducing the market price information available.

The Government's ongoing work program, led by the Credits Supply Taskforce, is working towards identifying future areas of demand and supply and prioritising new stewardship sites with in-demand credits. This draws on ecosystem mapping and habitat suitability modelling, as well as credit buyers' expressions of interest, to identify potential supplies of species credits.

The Government is also working to improve and develop information tools, such as the Biodiversity Credits Market Sales Dashboard, to address these issues. To maximise the impact for participants, these tools should be relevant, based on accurate data, updated regularly, presented consistently, and free of unnecessary complexity.

While many of these actions are new or yet to be implemented, we would expect to see the market respond with an increased supply of in-demand credits and a better supply-demand balance in future reporting periods.

6.2 There is a lack of reliable supply and demand information

In a well-functioning credits market, landholders entering the market to sell credits will know which credits are in demand, the market price of those credits, and the financial and legal implications of entering the market. They will also be able to find buyers for their credits.

Figure 6.1 Key information steps for landholders who want to sell credits



Under the current system, the long lead times needed to generate credits to match demand make it hard for credit suppliers to know what credits will be in demand in future. Many may consider that it is not in their financial interests to enter the market without certainty that they can sell their credits.

Development proponents need to know the type and number of credits that are available or that could be created in the required timeframe. To decide the most economic offset option, they also need to know what price represents value for money.^z

Figure 6.2 Key information steps for proponents who need to buy credits



^z Development proponents can buy credits in the market, generate their own or pay the Biodiversity Conservation Fund.

6.2.1 Information about credit demand is incomplete and insufficient

Credit sellers do not currently have a clear picture of credit demand, which contributes to ongoing supply and demand imbalances in the market.

The Department, Taskforce and the Trust publish data in the following forms to help credit suppliers understand what credits are in demand:

- 1. **Historical sales and market trends:** via the searchable Biodiversity Credits Market Sales Dashboard.
- 2. **Public registers:** including information on statutory credit demand, supply, transactions, accredited assessors and private land conservation agreement registers, which provide a point-in-time market snapshot.
- 3. **Indicative demand:** for ecosystem credits based on forecasts of NSW's State and Regional Development and State Significant Infrastructure projects that will require credits.
- 4. **Credits Wanted List**: showing credits the Trust needs to offset liabilities from payments into the Biodiversity Conservation Fund.
- 5. **In-demand credits map and list**: based on analysis of demand pipelines and expressions of interest the Taskforce receives from credit buyers.

Other sources of demand information include the Biodiversity Conservation Trust's acquitted obligations report and the Biodiversity Conservation Fund charge quote report. Potential demand information can also be obtained from the NSW Planning Portal and engaging directly with the development proponents.

As with any market, potential participants need information about demand and price in order to understand risks and opportunities. But information about the biodiversity credit market, published by DPE and the BCT [Biodiversity Conservation Trust], does not provide an adequate picture of credit supply, demand and price to support market participation.

Audit Office of NSW, August 2022

The public registers are a requirement of the Biodiversity Conservation Act, and the Biodiversity Conservation Regulation sets out what information they must contain. However, registering credits wanted is voluntary for development proponents, meaning the register does not capture all demand in the market. As such, this information is largely based on current needs or near-term projections.

Current demand (from proponents with a credit obligation) and future forecast demand are not publicly available unless the proponent submits an expression of interest through the Biodiversity Offsets and Agreement Management System.

The Department's indicative demand analysis provides a longer-term credit demand outlook, based on forecast significant development and infrastructure projects. However, it is currently limited to ecosystem credits, does not provide exact numbers of credits as this is subject to change and depends on projects approved.

Stakeholders find information about credit demand disaggregated, complex, cumbersome to reconcile, and incomplete. For example, the Urban Development Institute of Australia (UDIA) NSW stated:

The BOS public registers are a good start, however UDIA's members do not have confidence that they are comprehensive and/or sufficiently current. Providing further information about what credits are regarded as 'in demand', would provide a signal to landholders to create BSAs that can generate those credits. ⁵⁸

Sealark Pty Ltd stated:

We are not sure if the information provided in the dashboard is complete, accurate and upto-date, but it should be. It should also be noted that the credit dashboard does not show BBAM [BioBanking Assessment Methodology] trades. An up-to-date credit dashboard and the background information behind the dashboard (which is available, although in an unwieldy excel spreadsheet) should be available for both BAM and BBAM credits.⁵⁹

6.2.2 Landholders and market facilitators do not know what demand is in the pipeline

Given the long lead time to generate credits, landholders need to know what credits will be demanded months or even years in advance. To have a well-functioning market, all approved credit obligations and forecast future demand need to be shown as early as possible.

Outside of major projects (which account for 80% of demand) there is limited information about potential credit needs identified early enough in the land rezoning and development approval phase. Knowing this could help the Taskforce facilitate credit generation earlier to match this demand when it comes online. While some work is being done to better identify credit needs from state-significant infrastructure projects that the Government is responsible for, there could be scope for the Government to do more work with councils to help them identify biodiversity impacts at these earlier stages for local development projects.

The Independent Review of the *Biodiversity Conservation Act 2016* also noted that better conservation outcomes can be achieved when biodiversity is considered early in the planning process. However, there is no requirement for planning proposals to apply the Scheme when land is being rezoned. It went on to recommend greater use of biodiversity certification when land is rezoned to consider assess impacts upfront, rather than on a project-by-project basis.⁶⁰

There is a lack of visibility of biodiversity offset conditions in consent orders

Any development application submitted to a consent authority must be accompanied by a Biodiversity Development Assessment Report, prepared by an accredited assessor. Among other things, this sets out the biodiversity impact of the development and the type and number of credits that must be retired to offset it. Once development consent is granted, development approval documents are published on the Government's planning portal. However, it is cumbersome for the Government and market participants to review each document to determine what credit demand is likely to eventuate from these, smaller development projects.

Finding

22. Market participants do not have reliable supply and demand data at an early enough stage for informed decision-making.

6.2.3 The Credits Supply Taskforce is working to fill information gaps and better match supply and demand

The Taskforce is undertaking analysis of future demand and identifying areas where in-demand credits may be found to proactively encourage stewardship applications from those areas.

It is playing a market facilitation role to match in-demand credit supply and demand, including by implementing the expression of interest process for credit buyers. It has also brought in credit purchase agreements to provide greater certainty for landholders that they would have a buyer for their credits should they enter the market. It also uses expressions of interest from landholders to identify the location of in-demand credits.

The Taskforce has found that it can identify demand for ecosystem and species credits, but sources of species credits are harder to determine. It has commissioned habitat suitability modelling and field work to support generation of species credits.

In addition to the Taskforce's work, the Department has published a map of approximate stewardship site locations, which participants have found useful.⁶¹

Recommendation

6. The Government should consider ways to identify potential credit demand earlier in the development planning process.

6.3 Price disclosure is inadequate for proper market functioning

A tradeable commodity market needs to show pricing information to function effectively. Given the limited market trading activity to date and the diverse range of credits, the market price information available to participants is limited. Most trading activity is concentrated around the tender and reverse auction events run by the Trust and the Taskforce.

The Government provides pricing information via the following sources:

- **Biodiversity Credits Market Sales Dashboard** with searchable trade and price information on market trades.
- **Biodiversity Credit Pricing Guidance** which assists landholders to work out how to price credits on their land and helps proponents to estimate the likely cost of credits.
- **Price estimation service** using the Biodiversity Offsets Payment Calculator to provide an indicative credit price for credits that stakeholders are interested in. The service is available to those seeking credit prices from the payment calculator and/or those with an actual or potential credit obligation, or landholders who have, or are seeking to enter into a Biodiversity Stewardship Agreement.
- Biodiversity Conservation Fund charge reports
- Biodiversity Conservation Trust state-wide tender outcome reports
- Credits Supply Taskforce reverse auction outcomes reports

The price of a credit is influenced by factors such as the IBRA sub-region, the Offset Trading Group, and whether it involves a threatened ecological community or hollow-bearing trees. However, some of this information is not displayed via tools like the Biodiversity Credits Market Sales Dashboard.

6.3.1 Lack of upfront pricing information makes it difficult to plan projects

Development proponents find it difficult to ascertain what they can expect their project to cost. Lake Macquarie City Council stated:

The lack of availability of market prices for credits makes it extremely difficult to plan projects and provide cost estimates until very late in the development process. A development application must be lodged before a proponent can ascertain relative prices and costs for options particularly payment into the Biodiversity Conservation Fund.⁶²

Local Government NSW commented that:

The BOS disadvantages some 'mum and dad' landowners who bought a block of land with the intention to build a home but later found that such development would trigger the BOS with very expensive implications.⁶³

Proponents should know up-front what they might be up for. This sends the critical price signal needed to encourage avoidance and minimisation with offsetting as last resort, or to move development away from areas of significant biodiversity impact to areas with less of an impact.

Box 6.1 Statutory biodiversity credit prices in the UK

As part of the UK's biodiversity net gain scheme, the UK Government publishes the prices of statutory biodiversity credits. Prices are accessible and presented in a single webpage as shown in the example below.

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Habitat distinctiveness	Broad habitat type	Specific habitat type	Price per credit	Tier
High	Wetland	Reedbeds	£42,000	A1
High	Grassland	Traditional orchards	£42,000	A1
High	Grassland	Lowland calcareous grassland	£48,000	A2
High	Grassland	Tall herb communities (H6430)	£48,000	A2

Statutory credits are intentionally priced higher than equivalent on-market credits to create a pricing incentive for proponents to meet their obligations through the market. They are offered as a last resort for proponents who cannot otherwise meet their obligations.

Prices will be reviewed every 6 months after the scheme becomes mandatory. The UK Government provides 10 weeks' notice of any planned price changes in the price list guidance.

Source: UK Government, Statutory biodiversity credit prices, accessed 6 December 2023.

6.3.2 Publicly available price data is distorted by related party transactions

Market participants cannot tell which trades on the transactions register are related party trades – that is, where a development proponent has generated credits on its own stewardship site to offset its credit obligations. This is an issue because related party transactions may not reflect true market price, but they are captured as a normal trade and affect the average credit price.

6.3.3 Price information asymmetries may benefit some participants over others

Information should not only be timely and accurate but also available to all participants at the same time. Some market participants have access to more information than others. As government participants, the Trust and Taskforce have greater access to credit price information and what credits or projects may be coming online.⁶⁴

Brokers and accredited assessors also receive information directly from the Trust that is not available to landholders. Accredited assessors have access to information that is not publicly available (e.g. knowing what credits or demand is in the pipeline stemming from their work). These information asymmetries create unequal opportunities between participants.⁶⁵

Box 6.2 Case study: How the Central Coast Council negotiates prices when selling credits

The Central Coast Council (the Council) manages 3 stewardship sites and a legacy site created under the BioBanking Scheme. It also has 2 expressions of interest with the Taskforce to create stewardship sites.

Setting up a first stewardship site

The Council was approached by a government proponent to set up a biodiversity stewardship site to provide required credits for a project. This included specifying credits the proponent needed and an offer to purchase the credits from the Council (through an agreement). Both parties had to negotiate credit prices, based on different estimations of land value.

The Council's considerations for pricing are shown below:



Both parties agreed on a price, and after the Biodiversity Stewardship Agreement was in place the buyer could buy and retire the credits. This agreement included all the credits the stewardship site generated.

Box 6.2 Case study: How the Central Coast Council negotiates prices when selling credits

As the credit types generated on the site had never been traded, there was no information on prices. The Council considers that this trade effectively set the price for those credit types in the market.

The next 2 stewardship sites: the difficulty of pricing without a buyer

The main drivers for the Council to set up biodiversity stewardship sites was to have a legal in perpetuity protection mechanism and funding for nature preservation and management. Its biodiversity strategy highlights the benefit of receiving annual payments to preserve biodiversity in certain circumstances.

The council has 2 other approved stewardship sites. Unlike its first site, these were not developed by directly engaging with a proposed buyer. The council has yet to sell credits from these 2 sites. The Council considers that there are disincentives to sell small numbers of credits – as it may be under the average credit price, the Total Fund Deposit cannot be met, or they have low value.

The council is encountering challenges in setting prices for selling credits, for the following reasons.



Low Trust pricing – the Trust's price estimation and pay-in charge are significantly lower than prices set during the council's prior market transactions



Conflicting sources of information and data presentation – the council is finding it difficult to establish the value of credits, with different messages from different sources



Unrealistic pricing for credit tenders – the council has participated in 2 rounds of the Trust's tenders, both of which were unsuccessful as the credits were deemed 'not value for money'.



Not enough information to assess demand – it can be hard to assess demand and predict what credits are likely to sell. For instance, the council believed a particular ecosystem credit relating to a certain stewardship site would be the most valuable, but it experienced more demand for other credits.

The council has undertaken investigations to assess demand, including seeking assistance from an accredited assessor to map priority areas for conservation with investment opportunity.

Box 6.2 Case study: How the Central Coast Council negotiates prices when selling credits

Source: IPART meeting with Central Coast Council, October 2023.

6.4 The Government can leverage its access to publish better supply and demand information

The Department is well positioned to gather real demand data from approved projects and forecast demand from major planned developments, and share it with market participants. This is because 80% of credit demand is driven by major projects.

The Government is working on various tools to improve supply and demand data, addressing concerns about information being disaggregated, complex, delayed and asymmetric. Most of these improvements will be introduced in the 2023–24 financial year.⁶⁶ Some tools will reformat data from existing registers for easier use, while others will extract and collate new information from planning approvals.

When creating these tools, it is important that the Government is clear about the issues it is solving. The information provided must be accurate, free of duplication, and consistent across similar tools. A major consideration for the Government is the effort needed to keep information up to date.

Establishing a feedback process will ensure changes meet stakeholders' needs, and resources are allocated where needed.

To decide which tools to prioritise, we recommend that the Government follows the Australian Securities and Investments Commission's (ASIC's) Good Disclosure Principles. While these principles were designed for other financial markets, they offer guidance on how to ensure better disclosure in the NSW biodiversity credits market and improve market outcomes (see Box 6.3).

Box 6.3 ASIC's Good Disclosure Principles

- 1. **Disclosure should be timely** Information should be up to date and provided to the consumer to give them enough time to consider the information.
- 2. **Disclosure should be relevant and complete** This should include information about significant benefits and risks, the cost of the product, factors affecting returns, significant tax implications, and what dispute resolution procedures are available if there is a problem.
- 3. **Disclosure should promote product understanding** Information should be accessible and in plain language. If market participants generally do not understand the product, greater disclosure should be considered.
- 4. **Disclosure should promote product comparison** Information should be provided in a way that makes it easier for market participants to compare their options.
- 5. **Disclosure should highlight important information** Information should draw the participant's eye to the most important information, including warnings about risk.
- 6. **Disclosure should have regard to consumers' needs** Information should be produced using a method that incorporates participants' needs, using methods such as consumer testing, feedback, and personalisation.

Source: Australian Securities & Investments Commission, *Regulatory Guide 168 Disclosure: Product Disclosure Statements* (and other disclosure obligations), July 2022, pp 18-27.

6.4.1 The Government should continue to facilitate price disclosure

While market price information remains limited, the Trust should continue its price estimation service. In the absence of market clearing prices, the Government should continue to provide guidance to landholders and proponents on the indicative value of biodiversity credits.

The Trust could build in information from the Taskforce's auction process to provide bespoke estimates to potential credit suppliers and development proponents. This bottom-up cost assessment, together with the market price information, would help participants establish an indicative credit price range for their negotiations and to inform their decision making. However, this should only be done in the context of phasing out the Fund charge to avoid the circularity of Fund charges influencing the Taskforce's accepted bids and feeding back into the price estimation.

In future reviews, we will consider whether there is merit in having a more accessible reference price list, like the UK's statutory credit price guidance.

Recommendation

7. When creating or improving information tools for market participants, the Government should adhere to ASIC's Good Disclosure Principles.

Chapter 7 发

Market trading

Is there a simple and accessible way for buyers and sellers to trade credits?



In a well-functioning market, trades are as effective and efficient as possible and transaction costs are low. To keep transaction costs reasonably low, the process of making trades needs to be:

- simple, even where the market is complex
- timely and easy to navigate, with buyers and sellers finding each other easily and all essential steps flowing smoothly on from each other.

This chapter considers how easily participants can trade in the market, the role of market facilitators such as brokers or the Credits Supply Taskforce and the impact of the Taskforce's reverse auctions.

7.1 Key points in this chapter

We have found that it is not easy for participants to trade in the market, with participants experiencing high transaction costs.

Currently, trading in the market is overly complicated due to the difficulty of matching demand and supply, as well as the time and effort required to complete a trade. This increases credit buyers' incentives to pay into the Biodiversity Conservation Fund without trying to find credits in the market.

Due to the complexity of the market, participants can benefit from the assistance of a market facilitator. The Credits Supply Taskforce is acting in this space, by purchasing in-demand credits to on-sell to credit buyers with offset obligations. The ability to engage brokers could help overcome some of the complexity in the market, but it is currently unclear how much they are used.

7.2 High transaction costs reduce incentives to trade in the market

Trades in the biodiversity credits market are highly bespoke, making trading manually intensive. Finding a credit buyer or seller to trade with can be difficult without engaging the insider knowledge of an accredited assessor or broker, as it requires searching multiple spreadsheets and databases that are often incomplete or contain errors. Both credit buyers and sellers face numerous options to trade credits (see Table 7.1), but it can be difficult to assess which option is the most suitable. The choice is further complicated since credit sellers may need to sell their credits to multiple buyers and similarly credit buyers may need to purchase credits from multiple sellers.

Table 7.1 Options for trading biodiversity credits for buyers and sellers

Credit buyer

- directly approach credit seller to purchase credits
- approach credit seller through a third party (broker, accredited assessor, or consultant) to purchase credits
- purchase credits through a Credits Supply Taskforce Reverse Auction

Non-trading options:

- acquit credit obligation by paying into the Biodiversity Conservation Fund. This is not a trade of credits since the Biodiversity Conservation Trust still has to source the credits on behalf of the proponent who made the payment
- create credits through the buyer's own Biodiversity Stewardship Agreement site.

Credit seller

- sell directly to credit buyer
- sell to credit buyer found with the assistance of a third party (broker, accredited assessor, or consultant)
- submit a bid to Credits Supply Taskforce reverse auction to sell credits (if the credit seller is able to offer credits that are deemed in-demand)
- sell to Biodiversity Conservation Trust at a price set in an open fixed price offer (if the credit seller is able to offer credits on the Biodiversity Conservation Trust's Wanted Credits List)
- submit a bid to Biodiversity Conservation Trust state-wide credit tender to sell credits (if the credit seller is able to offer credits on the Biodiversity Conservation Trust's Wanted Credits List).

There is no one centralised place for sellers and buyers to identify where they can sell or buy credits. It requires searching multiple registers or databases, which may contain fragmented or incomplete information.

The Urban Development Institute of Australia NSW stated in its submission to our Issues Paper that the development industry has a "lack of confidence that a timely, complete, and affordable outcome can be found by investing the effort to engage in the trading market".⁶⁷

Similarly, Lake Macquarie City Council submitted:

Sourcing suitable credits on the market and subsequently transferring credits is a complex and time-consuming process that adds cost, risk and delay to projects, including public projects.⁶⁸

This suggests that the trading process currently is not working for many market participants.

If making a trade in the market is deemed too difficult or costly, paying into the Biodiversity Conservation Fund can become an attractive option, even if the equivalent credits are available to buy in the market. This is particularly the case where credit buyers are under pressure to secure offsets to proceed with development and high transaction costs can excessively increase the cost of development. Multiple stakeholders have commented that few proponents are engaging in the market before paying into the Biodiversity Conservation Fund.⁶⁹ This consolidates the problems that the Fund creates for market development by circumventing the market.

On the supply side, high transaction costs are a barrier to entry to landholders. They unnecessarily increase selling risks and reduce expected revenue from setting up a Biodiversity Stewardship Agreement.

7.2.1 Discovering what credits are active in the market and who owns them is costly

As discussed in Chapter 6, the information provided to market participants is insufficient for efficient matching of buyers and sellers. Those wanting to trade in the market largely rely on the public registers provided by the Department of Planning and Environment. These registers are currently unreliable, as they can be missing information, contain errors, or show credits as being available when they are not. It is also difficult for buyers to ascertain which credits are active in the market and who owns them.

The credit supply register details the number, type and location of credits available for purchase including the IBRA subregion, Plant Community Type or Offset Trading Group, whether the credit is a threatened ecological community and the presence of hollow bearing trees. The register includes expressions of interest (potential credit supply), pending credits (which need assessment and approval) and issued credits, including BioBanking equivalence credits. The credit supply register is a point-in-time snapshot of credit availability.

However, credit buyers are missing vital information that affects their ability to identify and negotiate the purchase of credits for their needs. The contact details listed in the register are not always those of the owner of the credits – they may be for an accredited assessor or other third party assisting the seller. The former BioBanking Scheme identified credit owners within the credit register, which enabled proponents to have confidence that the person they were buying credits from was also the legal owner. However, the Biodiversity Offsets Scheme introduced confidentiality of credit ownership, requiring proponents to request ownership details from credit holders. Proof of credit ownership is difficult to obtain and third-party validation requires the permission of the credit owner.

Additionally, the true status of credits is not known and cannot be easily or quickly verified. Credit buyers cannot identify credits on the register that have already been traded but not yet retired or are earmarked for a particular project. Overall, they cannot tell whether the owner is willing to sell. For example, development proponents who generate credits on their own stewardship site to offset their own obligations are still required to list them on the supply register before they are retired. There is no indication that they are not for general sale. This means that credit buyers and sellers could waste time making contact to set up a trade that can never happen. This also makes it difficult for market administrators to determine the actual supply-demand balance at any point in time.

The various credit matching requirements^{aa} make it difficult for credit sellers and buyers to find the right buyers or sellers for their credits. The public registers only allow basic filtering and key word searches, which makes it more difficult to find the right credits.

^{aa} Credit buyers with offset obligations must find credits that are 'like-for-like' with their obligations, to seek to ensure that biodiversity impacts are offset with biodiversity that is very similar to the biodiversity that is being impacted. In practice, this means the credit buyers has to consider strict requirements such as the species, ecology and location of the credit seller's stewardship site.

The complexity and inaccuracy of information on credit availability makes trading on the market a less desirable option for proponents. It can be easier for credit sellers to sell credits to the Trust or the Taskforce, as this reduces the time spent trying to negotiate a bespoke trade. As discussed in Chapter 4, this increases the dominance of these government agencies in the market and changes the characteristics of demand in the market.

The Urban Development Institute of Australia NSW stated:

Developers need to be able to quickly and easily access accurate information about credit supply currently available on the market, including their prices. This would make retiring credits a cheaper and easier option than paying into the Biodiversity Conservation Fund (BCF) operated by the [Biodiversity Conservation Trust].⁷⁰

Finding

23. Finding credits in the market involves high search costs. This makes credit buyers more likely to pay into the Biodiversity Conservation Fund without exploring the market first.

7.2.2 Participants spend time and effort navigating bureaucratic processes

Once credit buyers and sellers have found a party willing to trade, they must go through a highly manual process to transfer credit ownership. Each credit transfer must be manually assessed and approved by the Department. This processing time can take 3-4 weeks⁷² if the application is properly completed, which stakeholders told us often takes a few attempts to get right.⁷²

The application to transfer credits sets out strict legal requirements such as:

- providing evidence of authority to sign (which may be complicated for organisations, as sign-off must come from individuals with sufficient legal authority who may be otherwise uninvolved in the credit procurement process, in practice often the CEO)
- providing proof of identity
- providing witnesses to verify the execution of the application to transfer the credits.73

These requirements help to ensure integrity but make the trading process more demanding. Given the complexity of the requirements, participants may need to engage lawyers to assist with transactions. Stakeholders raised concerns that lawyers do not have the expertise required to navigate market transactions, given relatively few trades occur in the market.⁷⁴ Due to this, some stakeholders suggested having a standardised legal contract.⁷⁵

There is a fee to apply to transfer or retire credits, payable to the Department to cover the administrative costs. In 2022–23, this was \$1,655, and it is adjusted annually for inflation.⁷⁶ While charging a fee to cover administrative costs is reasonable, the Audit Office of NSW found that it is unclear how the fee is set.⁷⁷ Reducing the administrative burden of manually processing transactions could help to reduce the fee that the Department charges.

The application processing time can create cashflow risk for the credit buyer, particularly if there are delays to approving the transaction. Proof of payment for credits must be submitted with the form, which means there is a period where the seller has been paid but the proponent has no credits to show for it.

We have not been able to analyse how long it takes for credit buyers to find the credits they need in the market, or even how long it takes for credit buyers and sellers to negotiate trades. The Department does not collect this data. In practice, the time it takes to navigate transactions would be difficult to measure. We would be able to identify when proponents first become aware of their credit obligations based on the issuing of consent conditions, but proponents may not seek credits straight away. The demand registers also cannot be used as these are voluntary, meaning not all demand is captured.

Finding

24. Transferring credits is a manual process, causing delays, uncertainties and cashflow risks for those involved.

Box 7.1 Case study – How Inland Rail sources credits to meet its obligations

Inland Rail is a major 1,700-kilometre freight rail project, connecting Melbourne to Brisbane via regional Victoria, New South Wales and Queensland. Inland Rail Pty Ltd, a subsidiary of the Australian Rail Track Corporation Limited (ARTC), is building Inland Rail on behalf of the Australian Government and all Australians, in partnership with communities.

Inland Rail must offset otherwise unavoidable impacts from construction of the Inland Rail projects in NSW through the Biodiversity Offsets Scheme.

Deciding how to offset credit obligations

Like many other development proponents, Inland Rail identified 4 main options to source credits to meet its offset obligations:



When the Scheme began, Inland Rail identified that there were few credits available in the market to meet its needs. However, to minimise its costs and maximise conservation outcomes, it aimed to avoid paying into the Biodiversity Conservation Fund, even if that process was less complex.

Early in the life of the Scheme, Inland Rail created an internal credits supply by acquiring land and establishing Biodiversity Stewardship Agreements. However, while this was initially the cheapest and fastest way to acquire credits, it was not Inland Rail's preference to own land and manage stewardship agreements in the long-term. It has done so to acquire difficult to source credit types and minimise risks of transactions falling through. It then moved to assisting other private landholders to generate credits on their land for sale to Inland Rail.

When seeking credits in the market, or via partnering with landholders directly, Inland Rail considers 2 key factors:

Box 7.1 Case study – How Inland Rail sources credits to meet its obligations

Benchmark discount

Inland Rail has a target discount price against the Biodiversity Conservation Fund Charge System.

The Charge System calculates the amount proponents would need to pay the Biodiversity Conservation Trust if they chose to pay directly into the Fund. Value for money proposition Inland Rail has an internal value for money framework with a strong focus on competition. In its view, buying credits directly from sellers is rarely a highly competitive process due to a lack of similar credit types and difficult tender processes for landholders to access.

It has also assisted landholders with bottom-up costing of credit prices that achieves a fair price paid for credits.

Partnering with landholders to generate credits

Inland Rail has proactively engaged many landholders to generate and sell credits as a strategy to meet some of its credit obligations. This involves:

- calling for expressions of Interest in Biodiversity Stewardship Agreements from landholders that could potentially supply the credits needed to fulfil its offset obligations. These are promoted at community and conference events
- providing information and support to landholders to educate them about the Biodiversity Offsets Scheme and how Biodiversity Stewardship Agreements work
- engaging with landholders who were previously part of the BioBanking scheme, and those still in the process of converting their credits to the Biodiversity Offsets Scheme.

Buying existing credits in the market

Inland Rail uses the market to achieve greater value for money compared to the more direct route of paying into the Fund. The process of buying credits in the market is still labour-intensive, with specific barriers around:

- cashflow risks if there are lengthy delays in settlement
- the significant uncertainty about when the Department will approve credit transfer applications

Box 7.1 Case study – How Inland Rail sources credits to meet its obligations

• a legal requirement that credits transfers are signed by the buyer, which in ARTC's case is the CEO and Company Secretary. Previous BioBanking transactions did not require a buyer's signature, which Inland Rail found considerably speeds up the transaction.

Figure 7.1 Typical process for Inland Rail to buy credits in the market



Inland Rail does not use brokers to assist with transactions or to navigate the market as it considers there is a lack of transparency around broking agreements and a perception of profiteering.

Inland Rail has taken part in all reverse auctions conducted by the Credits Supply Taskforce to date, and purchased credits which it deemed beneficial in terms of its value-for-money framework.

Source: IPART meeting with Inland Rail, October 2023.

7.3 There is a role for market intermediaries

Given the bespoke nature of transactions, there is an ongoing role for a market maker or external intermediaries. This could be a combination of the Credits Supply Taskforce and private third-party brokers.

7.3.1 The Credits Supply Taskforce has been effective in facilitating trades

The Taskforce appears to be helping to make trades more efficient for those involved. It does this by identifying credit demand and potential supply, and proactively encouraging potential suppliers of those credits to enter the market. One mechanism it uses to match credit demand and supply is reverse auctions, whereby it purchases in-demand credits in bulk, to on-sell to proponents (see Figure 7.2). The Taskforce's reverse auctions are enabled through its \$106 million Credits Supply Fund, which is approved to operate through to 2025.

Figure 7.2 Credits Supply Taskforce reverse auction process



The Taskforce invites expressions of interest from potential credit buyers.

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The Taskforce compiles a target credit list and invites existing credit suppliers, or landholders interested in entering into a Biodiversity Stewardship Agreement, to bid the amount for which they would be willing to sell credits. The bids are binding if the Taskforce accepts them.



Bids are evaluated by a panel that is supported by a probity adviser. The panel ranks the bids based on price and other relevant criteria and selects credits to recommend for purchase.



The Taskforce offers credit buyers a price for the credits they are seeking, which is the weighted average of all bids accepted for that credit with an 8% mark-up for cost recovery.



The Taskforce purchases the credits that credit buyers are interested in, to ultimately on-sell to the credit buyers.

The Taskforce aims for a quick turnaround of the reverse auction process, as the bids from landholders are binding. Auction results are typically published around one month after bids close.

During the 2022–23 financial year, the Taskforce held 2 reverse auctions. Table 7.2 shows a summary of the reverse auctions, which resulted in purchases of 12,096 credits for a total of almost \$29 million. In total, just over 80,000 credits were traded in the market during the year, meaning that Taskforce reverse auctions represented 15% of all credits traded in the market.⁷⁸ As at the end of June 2023, the Taskforce had not yet sold any of these credits to proponents.^{bb}

Table 7.2 Summary of results of Credits Supply Taskforce reverse auctions

	Reverse Auction 1 (October 2022)	Reverse Auction 2 (February 2023)
Total number of bids	55	54
Number of credit types offered in bids	67	64
Number of bids offering credits approved for purchase	5	13
Number of credits approved for purchase	26,916	31,052
Value of credits approved for purchase	\$26,036,517	\$71,825,753
Number of credits purchased in 2022–23	4812	7284
Total price paid to credit providers	\$3,420,940	\$25,552,330

Source: IPART analysis, using data from the Credits Supply Taskforce.

In its October 2023 market update, the Credits Supply Taskforce stated:

Currently, the Supply Fund is on track to exceed expectations that the [Credits Supply] Fund will be able to purchase and re-sell \$200 million in biodiversity credits within 3 years of operation. In recognition of this, funding from 2024–25 has been brought forward to maximise the use of the Supply Fund during its initial 3 years of operation.⁷⁹

While the Taskforce's reverse auctions are a recent introduction, there is mixed support and apprehension from stakeholders. Some stakeholders felt that the Taskforce provided more certainty to landholders selling in-demand credits, relative to the market and the Biodiversity Conservation Trust.⁸⁰ However, some credit sellers expressed concerns including:

- that the Biodiversity Conservation Trust and Department of Planning and Environment duplicate each other's work by issuing competing requests for tender⁸¹
- that the reverse auction process is affected by similar issues as trading in the market, including lengthy trading processes and complex paperwork.⁸²

It is also a problem that the Taskforce is limited to buying and selling credits at a lower price than the Biodiversity Conservation Fund charge. The Taskforce's price and therefore effectiveness is essentially decided by the Fund pay-in price, not a competitive market price (see Chapter 4).

^{bb} Another reverse auction process was started in June 2023 but finished in July 2023. The results of this auction are public but we have not considered them for this Annual Report. The Taskforce has also sold credits from its reverse auctions since the end of the reporting period. We will analyse this in our next Annual Report.

For the Taskforce to continue to be effective, it needs to be able to set appropriate prices. Credit buyers taking part in reverse auctions would still likely want an upfront indicative price estimate for the credits. Similarly, the Taskforce would need an idea of what credit buyers are willing to pay. Currently, this is essentially set by the Biodiversity Conservation Fund charge, so an alternative would be needed without the presence of the Fund charge. An alternative could be for the Taskforce to get an indication from credit buyers on the maximum price they are willing to pay. This would only work if buyers had the ability to determine appropriate prices.

While it is still too soon to tell, there is evidence that the Taskforce's reverse auctions are matching credits supply and demand more efficiently than otherwise would occur through available market mechanisms. This reduces the time and resources required for credit buyers and sellers to find each other, as well as reducing uncertainty for credit sellers of not finding a buyer.

As such, we support the recommendation of the Independent Review of the *Biodiversity Conservation Act 2016* that the Taskforce should "continue to invest in the Biodiversity Credits Supply Fund to accelerate the supply of in-demand credits and support development of the credit market".⁸³ In particular, it would be important for the Taskforce to continue this strategy while the Biodiversity Conservation Fund is phased out.

The Taskforce's role facilitating credits matching through reverse auctions is limited by the Credits Supply Fund size, which allows the Taskforce to purchase credits upfront (ultimately recovering these costs from on-selling credits). Further investment may be required if the Taskforce's role expands. However, the Government should exercise caution that the Taskforce does not accumulate excess credits stock for which there is no demand.

7.3.2 Brokers could reduce transaction costs and help participants navigate the market

Private third parties also could play a role in facilitating better market trading and assist market participants to navigate the market by acting as brokers. A landholder submitted to our Issues Paper:

Landholders disadvantaged through lack of information about credit buyers, actual sale prices, offset trading groups and other technical information are obliged to employ brokers to navigate the complexities of the scheme, adding to their cost burden.⁸⁴

Brokers are common in similar markets where a certain level of niche expertise is required to complete transactions. For example, biodiversity offset markets in Victoria and South Australia encourage the use of brokers.⁸⁵ Some similar nature service markets such as the Australian Carbon Exchange and water trading markets have a reasonably high degree of broker activity as well.

Brokers are not accredited in NSW to provide services in connection with the credit market. The Biodiversity Conservation Act allows for provisions to be made about brokers. However, these provisions have not been utilised to regulate brokers.

We heard from stakeholders that brokers are not frequently used,⁸⁶ potentially due to concerns about brokers being unregulated. Conversely, the Credits Supply Taskforce has rigorous probity and transparency arrangements,⁸⁷ which could make using the Taskforce a more attractive option to market participants with high probity standards or needs.

With improved oversight (see Chapter 8), brokers could complement the Taskforce's role. The availability of both brokers and the Taskforce provides market participants with choice on who to turn to find the credit buyer or seller they need. This is especially important considering the Taskforce can only run its reverse auctions periodically, whereas demand will be continuous and subject to strict timeframes of development.

While current broker activity in the market is unknown, there is some evidence that participants are relying on accredited assessors, lawyers or other educated third parties to assist them to navigate the market.

Finding

25. The market's high complexity requires a facilitator or specialised third-party brokers to help with trading. The use of such services can play a positive role in supporting liquidity in the market.

Recommendation

8. The Credits Supply Taskforce should continue to facilitate trading in the market, including regularly holding market-based auctions to match credit supply and demand.

7.4 Participants need a reliable, accessible and efficient trading system

To increase market trades and ensure robust trading systems that can facilitate more credit trading, it is crucial to minimise search and transaction costs. This requires making trading systems and processes simpler to navigate and more reliable.

The Department has already been implementing changes to make it easier to trade in the market. For example, the public registers that credit buyers and sellers can use to find each other have changed from downloadable spreadsheets to databases that can be searched by keyword and filtered, which has improved usability. Other initiatives to improve information for participants to assist trading are discussed in Chapter 6.

Registers would also benefit from greater accuracy, consistency, transparency and oversight. They need greater quality control, to ensure information is correct and complete, and avoid transcription errors that can reduce searchability. Registers could include additional information that shows what credits are genuinely available. This could be in the form of a status indicator that shows whether the credits are available or already earmarked for another project. The Department should also consider how it could reduce the length and complexity of the transaction process, including where efficiencies can be gained in the process, for example by considering:

- how parts of the process can be automated, to reduce reliance on manual checking
- the level of delegation required from proponents to authorise transactions and how this compares to transactions of equivalent risk and value in other financial product markets
- where the Department can provide greater upfront clarity and support to reduce application form errors and resubmissions
- whether the current level of confidentiality around credit ownership is necessary.

Recommendation

- 9. The Government should explore ways to simplify and shorten the transaction process, including by:
 - a. automating certain parts of the process
 - b. determining the appropriate level of delegation for transaction authorisation
 - c. providing more upfront information and support to minimise form resubmissions
 - d. providing greater transparency around credit ownership.

Chapter 8 发

Confidence in the market

Does the market have sufficient integrity to encourage ongoing confidence in it?


A market cannot function well without effective governance and fair practices. Credit buyers, credit sellers and the broader community need to have confidence in the biodiversity credits market to ensure its sustainability. If potential credit sellers do not have confidence in the market, they may simply not enter into Biodiversity Stewardship Agreements to generate credits. If buyers do not have confidence in the market, they may engage with it as minimally as possible to fulfil their offset obligations. A high level of confidence will ensure greater participation, compliance and engagement with the market.

Low confidence in the market is a serious barrier to its development. As biodiversity offsets markets are relatively new, they cannot succeed without a certain degree of confidence in the integrity of the market. Such confidence can be undermined if the governance of the market is perceived to be inadequate. The perpetuation of such perceptions may risk the continuation of the biodiversity credits market.

This chapter considers the level of confidence in the market, the factors affecting confidence, and whether the Government could do more to improve it.

8.1 Key points in this chapter

Many stakeholders lack confidence in the biodiversity credits market's governance and integrity, raising concerns including:

- potential conflicts of interest and a lack of effective controls to detect and prevent misconduct among various actors in the market
- inadequate management of change and regulatory risk
- inadequate engagement with stakeholders over market design and changes.

The Government is addressing some of these governance issues, but it may take time for stakeholders' views to shift. Initially, we recommend the Government continue to take action to improve transparency and consultation to address market participants' concerns and provide greater oversight of third parties in the market.

We will monitor what impact these changes have on market confidence in future years of our review.

8.2 Stakeholders have low confidence in the biodiversity credits market

Stakeholders have expressed low levels of confidence in the biodiversity credits market including questioning whether there is adequate separation of Government roles, how conflicts of interest are managed, and oversight of third parties. Low market confidence can be a barrier to entry for participants.

The lack of transparency in many aspects of the scheme diminishes confidence in the integrity of biodiversity offsets, and allows the perception of malpractice and abuse of the scheme to gain traction.

Portfolio Committee No. 7 – Planning and Environment, 2022

8.2.1 Stakeholders are not able to differentiate Government roles enough

Several distinct Government entities act in the Scheme, and participants do not always clearly understand what differentiates them and their roles. This lack of understanding can expose the entities to scrutiny over their motivations and actions.

In their submissions to our Issues Paper, some stakeholders suggested that there should be greater separation between the Credits Supply Taskforce, Department of Planning and Environment and Biodiversity Conservation Trust and their roles.⁸⁸ The NSW Independent Commission Against Corruption (NSW ICAC) noted:

...in the Commission's experience, agencies experience difficulties, such as regulatory capture, when they have dual roles of facilitation and regulation and/or governance responsibilities.⁸⁹

There is a risk that market participants do not understand the functions of the different Government entities in the market, or that they are not sufficiently separate. Some landholders reflected in submissions that the simultaneous operation of auctions and tenders by the Trust and Taskforce leads to significant confusion.⁹⁰

Box 8.1 Discretionary decision-making and Biodiversity Stewardship Agreement compliance were raised by stakeholders

We received several submissions raising concerns about a lack of oversight over discretionary decision-making in the Biodiversity Offsets Scheme.⁹¹ This included ministerial discretion in determining offset credits for major projects and local councils' ability to reduce credit obligations.

Stakeholders also raised that there is insufficient transparency over the monitoring of Biodiversity Stewardship Agreement holders' compliance with their management plans.⁹²

We have considered these submissions but note that both the issues have already been addressed in other reviews of the Biodiversity Offsets Scheme:

- The Independent Review of the Biodiversity Conservation Act recommended that discretion to discount biodiversity credit requirements be restricted to the Minister for Environment, with full transparency and accountability.
- The Audit Office of NSW recommended the Department and Trust should implement plans to ensure ecological monitoring occurs on all Biodiversity Stewardship Agreement sites.
- The Audit Office of NSW recommended the Department should establish an approach to measuring and publicly reporting on biodiversity outcomes from the Scheme.

We will consider whether the issues will need to be further monitored in the future.

Sources: Independent Panel, *Independent Review of the Biodiversity Conservation Act 2016 – Final Report*, August 2023, pp 27, 50; Audit Office of New South Wales, *Effectiveness of the Biodiversity Offsets Scheme*, August 2022, pp 10-11.

8.2.2 Stakeholders have concerns about conflicts of interest of accredited assessors

Accredited assessors play a key role in the market, applying the Biodiversity Assessment Method to quantify credits as well as sometimes acting as brokers and/or advisers. Previous reviews of the Scheme and stakeholder submissions to our Issues Paper raised concerns about the lack of safeguards to ensure fair conduct.

We specifically heard about concerns about the conflicts of interest of accredited assessors, with stakeholders noting they:

- simultaneously provide services to both credit buyers and sellers
- simultaneously provide broker services
- can enter into a Biodiversity Stewardship Agreement as a landholder

• can undertake assessments for related parties, other staff in the same organisation, or their family or friends.93

Past reviews of the Scheme also raised such concerns.94

The large scope of the work performed by accredited assessors is described in Figure 8.1 below.

Figure 8.1 Some of the roles accredited assessors play in the market



Source: Meeting with Environment Institute of Australia and New Zealand Biodiversity Offsets community of practice Chair, October 2023.

NSW ICAC noted in its submission that it is difficult to discern whether accredited assessors are engaging in fair trading, raising:

- There is no public information about complaints about, and investigations of, accredited assessors.
- It is important to ensure that assessors cannot personally benefit from having insider information.
- The Accredited Biodiversity Assessment Method Assessor Code of Conduct (the Code of Conduct) for accredited assessors prohibits assessors from acting in circumstances where there is an actual or perceived conflict of interest yet does not describe what these may be.
- The Code of Conduct does not comment on competing commercial obligations or the misuse of information.⁹⁵

Accredited assessors must agree to abide by the Code of Conduct and the Department has powers to cancel accreditation in cases of non-compliance.⁹⁶ There appears to be scope to make the Code of Conduct clearer to further discourage conflicts of interest in the market.

In the most extreme case, conflicts of interest of third parties could be equivalent to insider trading in financial markets.^{cc} The unclear definition of what constitutes a conflict-of-interest leaves room for behaviour like insider trading. The Audit Office of NSW raised similar issues in its review, concluding:

There is potential for conflicts if [Department of Planning and Environment]-Accredited Assessors also act as brokers for credits in the market, noting [the Department] has not regulated the provision of broker services. Without oversight of Accredited Assessors' actual or potential conflicts of interest, [the Department] is unable to identify or manage the risk of assessors operating as brokers and benefiting inappropriately from transactions under the Scheme.⁹⁷

This could create serious issues and will be further investigated in future years of our review.

The Department provides an Assessor Complaints and Feedback Form to record complaints. Not all these complaints about accredited assessors are relevant to the biodiversity credits market. For example, some of the complaints concern the assessor's skills as an ecologist. Between July 2022 and May 2023, the Department received 30 cases (complaints or feedback) about accredited assessors, with only 7 being closed, meaning most are still open or on hold (see Figure 8.2). Most complainants since the start of the Scheme have been associated with Government.⁹⁸

Figure 8.2 Status of accredited assessor complaints and feedback received from July 2022 to May 2023



Source: IPART analysis, using data from the Department of Planning and Environment.

Finding

26. Market participants lack confidence in the governance of third parties in the market, especially around how conflicts of interest are managed.

^{cc} Insider trading is the inappropriate use of insider information that is not available to the public, to make a profit or avoid losses. It is an offence defined under the *Corporations Act 2001 (Cth)* which applies to financial products as defined by ASIC.

8.2.3 There is no oversight of broker activity in the market

There is no oversight of broker activity in the market, which reduces participants' confidence in using third party brokers to help them navigate the market and creates a risk of misconduct. Sometimes accredited assessors act as brokers, which leads to participant concerns around conflicts of interest (as discussed in section 8.2.2).

Currently, there is no data available on broker activity, as brokers in the market do not have to be registered and broker-assisted trades are not captured in the transaction registers.

In Victoria (see Box 8.2) and South Australia, brokers who participate in their respective biodiversity offsets schemes must be registered. In South Australia they are accredited, whereby the individual has to demonstrate experience in biodiversity conservation projects in the region they wish to operate in, and their ability to meet administrative requirements.⁹⁹

Box 8.2 Governance of brokers in the Victorian Native Vegetation Credit market

In the Victorian Native Vegetation Credit market, brokers are individuals or organisations that have entered into an agreement with the Government to allow them to facilitate trade on behalf of credit owners and purchasers. The agreement sets out the following key obligations:

- The broker can facilitate the sale of credits during the term of the agreement and loses this ability when the agreement expires.
- The broker must facilitate the sale in accordance with the agreement.
- The broker can only facilitate the sale when it has entered into a valid agreement with the credit owner to sell those credits.
- The broker has discretion to set the fees charged for brokerage services.

In terms of conduct, the broker must:

- operate in accordance with the rules of the Native Vegetation Credit Register
- maintain regular contact with the credit owner and ensure the credit owner is aware of their credit balances
- maintain proper records concerning any agreements, negotiations, trades and payments
- represent all credit buyers and sellers who use their services fairly and equally
- ensure that credit buyers and sellers who use their services fully understand their rights, obligations and options
- not possess property or be engaged in businesses that are a conflict of interest or have the potential to be, and declare any potential conflicts of interest to the Government.

Box 8.2 Governance of brokers in the Victorian Native Vegetation Credit market

The Government has the power to terminate the broker's agreement if the broker is found to act dishonestly, breaches the agreement or does not act in good faith. If a broker is unable to help a credit buyer/seller by finding the right credit seller/buyer, the credit buyer/seller is encouraged to find another broker.

Source: Victoria State Government Department of Environment, Land, Water and Planning, *Roles and responsibilities:* Native Vegetation Credit Register Broker, 2020.

While some stakeholders suggested there should be greater regulation of broker activity¹⁰⁰, there is not enough information at this stage to support a recommendation that the Government regulate broker activity in the market. However, there would be merit in the Government collecting data to identify how often brokers (or other third parties acting in a broker capacity) are involved in trading. There may also be merit in having a voluntary register of brokers in the market. This would give market participants better choice of advisors and the Department greater visibility over the third parties involved in the market.

We will monitor this further over the coming years of our review. If the data shows that brokers are playing an increasing role in the market, an accreditation process and formal code of conduct, such as those used in Victoria and South Australia, may become useful to promote confidence in broker services for market participants.

8.2.4 Change and regulatory risks are not well managed

With the changes occurring in the biodiversity credits market, including the recent review of the Biodiversity Conservation Act, change and regulatory risk management can help mitigate adverse effects.

Landholders have highlighted that the risk of policy changes reduced their willingness to participate and their confidence in the market. A specific example that stakeholders raised in submissions was the transition from the BioBanking Scheme to the current Biodiversity Offsets Scheme, which impacted the value of credits held by suppliers. We heard how landholders who had entered the BioBanking Scheme experienced unforeseen issues such as declines in the value of their credits and difficulties in assessing equivalence in the current Scheme.¹⁰¹

The Audit Office of NSW also found that the Department "did not adequately plan for and manage risks when implementing transitional arrangements from [the] previous scheme" and described a "lack of communication on this matter".¹⁰² The Parliamentary Inquiry into the integrity of the Biodiversity Offsets Scheme stated "the NSW Government introduced a new offsets scheme without adequately considering the impacts on individuals' financial interests" and recommended the Government review its handling of the transition from the BioBanking scheme to the Biodiversity Offsets Scheme due to similar reasons. The Government at the time did not support this recommendation, and responded:

[the Department] has confidence in the transitional arrangements that were established to support a smooth transition from the Biobanking Scheme to the current Scheme. [The Department] has in place a robust process to determine the equivalence of BioBanking credits with Biodiversity Offsets Scheme credits.¹⁰³

While verifying the soundness of the process to determine ecological equivalence is beyond the scope of our review, we have certainly heard stakeholder feedback that communications around the transition did not meet market participants' needs.

Another example of changes to market governance is the recalculation of Total Fund Deposit discount rates.^{4d} Stakeholders told us that past changes to the discount rate had large impacts on Total Fund Deposits, and consequently, the market prices for credits.¹⁰⁴ When the discount rate increases, the value of the Total Fund Deposit decreases. Conversely, when the discount rate decreases, the value of the Total Fund Deposit increases. The Total Fund Deposit discount rate is an important factor in credit prices because it influences the value of management costs that sellers must recover before they can begin to generate profits. The Total Fund Deposit is calculated at the time that a Biodiversity Stewardship Agreement is established, using the prevailing discount rate as published by the Department. Once the Biodiversity Stewardship Agreement is established, future changes to the discount rate do not affect a landholder's Total Fund Deposit.

Changes to Total Fund Deposit discount rates can have a material financial impact on market participants. While the changes itself are not problematic, we consider market participants would benefit from greater transparency over when, how often and why changes are made. The information provided should adequately inform market participants of the financial impacts of Total Fund Deposit discount rate changes.

Finding

27. Some previous and current policy changes have caused financial uncertainty and negative impacts for market participants, contributing to barriers to entry. An example of this is the transition between the BioBanking scheme and Biodiversity Offsets Scheme.

^{dd} The Total Fund Deposit represents the value of money needed to cover future Biodiversity Stewardship Agreement management costs. To calculate the present value of these future management costs, the Department applies a discount rate in its Total Fund Deposit calculation. This is referred to as the Total Fund Deposit discount rate.

Box 8.3 Low confidence in the market could drive participants elsewhere

If potential credit suppliers do not have sufficient confidence in the biodiversity credits market, they may seek other ways to monetise the biodiversity on their land. This reduces the potential supply of credits to the market. We have already seen landholders turning elsewhere with the emergence of Aboriginal-administered biodiversity markets and could see further fragmentation with the introduction of the Australian Government Nature Repair Market.

The emergence of separate Aboriginal-administered markets may be explained by a lack of confidence in the market as well as barriers to entry. One such example is Catalyst Markets, a trading platform to enable Indigenous communities to deliver carbon credits with cultural and biodiversity co-benefits. Catalyst Markets was developed by the Aboriginal Carbon Foundation, meaning it was created by Traditional Owners and allows for the incorporation of Traditional Ecological Knowledge. The value of projects is verified through the Foundation's Core Benefits Verification Framework, which is administered by trained Aboriginal experts.

If the Australian Government's proposed Nature Repair Market is more transparent and easier to navigate than the NSW biodiversity credits market, landholders in NSW will likely favour the nature repair market. The Australian Government has signalled its commitment to:

- rules that ensure integrity, enforcement and genuine environmental benefit
- projects that deliver genuine improvements in nature
- working with ACCC and ASIC to make sure claims about biodiversity offset certificates are accurate and not misleading.

While it is good for landholders to have a choice of options to finance biodiversity conservation on their land, the diversion of landholders away from the biodiversity credits market could exacerbate the issues preventing it from functioning well.

Source: Aboriginal Carbon Foundation, *Rigour and Independence in the Core Benefits Verification Framework for Environmental, Social and Cultural values*, n.d.; Australian Government Department of Climate Change, Energy, the Environment and Water, How the Nature Repair Market would operate, accessed 23 November 2023.

8.3 The Government has made changes to separate functions and manage conflicts of interest

Before the Credits Supply Taskforce was established, Biodiversity Stewardship Agreement applications were approved by the Biodiversity Conservation Trust.^{ee} This created a conflict as the Trust had a dual role in facilitating credit supply and being a market intermediary.¹⁰⁵ Now that the Taskforce processes Biodiversity Stewardship Agreement applications, this conflict has been reduced. We have generally heard positive feedback from landholders on the Taskforce's handling of Biodiversity Stewardship Agreement applications (see Chapter 5).

The Department and Trust have also enhanced their requirements for declaring conflicts of interest in response to findings from past reviews. The Credits Supply Taskforce also has conflict of interest arrangements in place.

- The Department has a public Protocol which outlines conflict of interest requirements relating the Biodiversity Offsets Scheme.¹⁰⁶ This Protocol has been in place since 2021 and is subject to ongoing change. The Department also updated its Department-wide Code of Ethics and Conduct in March 2022.
- The Trust has an internal policy for managing the conflicts of interest of staff participating in programs such as the Biodiversity Offsets Scheme. This policy largely aligns with the Department Protocol, however the Audit Office of NSW found that it is narrower in scope.¹⁰⁷
- Taskforce staff members are subject to the Department's conflicts of interest Protocol.108

We will monitor changes to and implementation of these protocols and how they affect market participants' perceptions.

8.4 The Government should continue to improve transparency and consultation

The Department is making improvements with the aim to increase transparency in the market and increase participants' confidence in its ability to deliver positive outcomes. It delivers the Integrated Improvement and Assurance Program, with 4 strategic priorities:

- 1. a functioning biodiversity credits market
- 2. making it easy to participate
- 3. ensuring confidence in the Scheme
- 4. maintaining scientific rigour.

The Department notes this Program is evolving and will respond proactively to incorporate new recommendations from reviews or stakeholder feedback.¹⁰⁹ The Department has also started to develop a Monitoring, Evaluation, Reporting and Improvement framework for the Scheme to support assessment and reporting on the Scheme's performance against the principles of ecologically sustainable development and a no net loss of biodiversity.¹¹⁰

^{ee} Under the Biodiversity Conservation Act, applications for Biodiversity Stewardship Agreements are made to the relevant Minister and entered (or declined) by the Minister. In practice, this is delegated.

Transparency and consultation can help increase market participants' confidence in the market, especially in the context of ongoing change. The Integrated Improvement and Assurance program and the Monitoring, Evaluation, Reporting and Improvement framework can help to deliver increased transparency if the Department communicates their outcomes clearly.

This transparency can be one part of a strong change and regulatory management approach for future changes in the market. Further policy change is to be expected as the available science and government policy evolve. Market participants would therefore benefit from a strong change management approach from the Department. As part of this approach, the Department should consider increasing consultation with a diverse set of stakeholders on changes to the market. Consultation can provide valuable input and make stakeholders feel like they are being heard. When changes are made, stakeholders should be consulted before and after the changes to gauge their effectiveness in addressing stakeholder concerns. This consultation process should be transparent and reach a diverse range of stakeholders.

We note that the Department already communicates regularly with market participants through newsletters, its Biodiversity Offsets Scheme helpdesk, and online seminars, but there appears to be potential for greater collaboration to ensure changes address participants' needs. Stakeholders are interested in communicating and/or collaborating with the Government to provide input into the functioning of the biodiversity credits market. In its submission to our Issues Paper, Local Government NSW stated:

There must be an increased focus on consultation with key stakeholders including councils, [Local Aboriginal Land Councils] and Aboriginal communities, proponents, landholders and ecological consultants that understand how the processes work on the ground and can provide valuable input.¹¹¹

We also heard from stakeholders that there is an appetite for co-design of future changes.¹¹²

Recommendation

10. The Government should continue to take steps to improve confidence in the market, emphasising increased oversight, transparency, and consultation.

Appendices



Terms of reference



A.1 Terms of reference for IPART to monitor the biodiversity credits market

I, Victor Dominello, Minister for Customer Service and Digital Government, under section 12A of the *Independent Pricing and Regulatory Tribunal Act 1992*, request the Independent Pricing and Regulatory Tribunal (IPART) to monitor and report on the operation of the biodiversity credits market within the Biodiversity Offsets Scheme (the Scheme).

Background

The Scheme is the NSW framework for offsetting unavoidable impacts on biodiversity from development with biodiversity gains through landholder stewardship agreements.

Applications for development or clearing approvals that enter the Scheme must set out how impacts on biodiversity will be avoided and minimised and remaining residual impacts as identified in the approval must be offset. This can be achieved by retirement of biodiversity credits or payment to the Biodiversity Conservation Fund (BCF) which transfers the offset obligation to the Biodiversity Conservation Trust (BCT).

Landholders can establish Biodiversity Stewardship Agreements (BSAs) to create biodiversity credits. These credits are then available to the market for purchase to offset the impacts of biodiversity by development, by the BCT (through the BCF), the Credit Supply Fund (through the Department of Planning and Environment) or by the Government or others to secure outcomes for conservation.

Proponents can also establish their own Biodiversity Stewardship Agreements to generate and retire the credits they need to offset their development. Part of the proceeds from credit sales are held in trust by the BCT to support the long-term management of the biodiversity stewardship sites.

The current biodiversity credits market builds on the previous NSW biodiversity credits market created under the Biobanking Scheme. The market is rapidly growing, and this is expected to continue over the next 10 years and beyond because of economic development, including housing, manufacturing and infrastructure delivery.

The task

IPART is requested to:

- 1. Monitor the performance of and competition within the biodiversity credit market, and make findings and recommendations with the aim of:
 - a. maintaining and promoting competition
 - b. addressing the interests of existing and potential biodiversity market participants, and supporting fair trading
 - c. identifying opportunities to improve market efficiency and address market failure
- 2. Report annually on the performance of and competition within the biodiversity market for a period of three years (annual market monitoring report).

Relevant considerations

In undertaking this task, IPART is to have regard to:

- 1. The purpose and structure of the Scheme
- 2. The roles and responsibilities of the Department of Planning and Environment, the BCT, local government authorities and other participants
- 3. The incentives and impacts of the Scheme on existing and potential market participants, including developers, landholders and Biodiversity Stewardship Agreement holders, accredited assessors, local government authorities and other interested parties
- 4. The impact of government interventions, including the Biodiversity Credits Supply Fund and the BCF
- 5. Whether there are gaps in data collected or reported on by participants in the market or the timing of making that data available that could help track performance of the market
- 6. Recent reviews of the Scheme including the parliamentary inquiry into the integrity of the Biodiversity Offsets Scheme and Audit Office report on the effectiveness of the Biodiversity Offsets Scheme
- 7. Any other matter that IPART considers relevant.

The process

IPART is required to consult with the Department of Planning and Environment, the BCT, developers, BSA holders, accredited biodiversity assessors, local government authorities and other interested parties during the preparation of an annual market monitoring report.

IPART is to publish an annual market monitoring report within six months after the end of each financial year, commencing with an annual report for the 2022–23 financial year.

IPART may also publish reports at other times if it considers appropriate.

Appendix B 📎

Glossary



Term	Description
Accredited assessor	An individual accredited by the Department of Planning and Environment to apply the Biodiversity Assessment Method.
Active (and passive) management	When a Biodiversity Stewardship Agreement is first applied to a site, it is under passive management. This means the landholder only has to undertake minimal management to conserve what is currently on the site. Once the stewardship agreement holder has sold enough credits to meet the Total Fund Deposit, the site enters active management. This means the stewardship agreement holder must undertake the management actions in the stewardship agreement's management plan and will receive annual payments from the Biodiversity Stewardship Payment Fund to cover management costs.
BioBanking scheme	The predecessor of the Biodiversity Offsets Scheme. Credits generated under the BioBanking scheme are tradeable in the Biodiversity Offsets Scheme after an assessment of equivalence has been applied.
Biodiversity	The variety of living animal and plant life from all sources, including diversity within and between species and diversity of ecosystems.
Biodiversity Assessment Method (BAM)	A document that details how an accredited person assesses impacts on biodiversity at development sites and stewardship sites. This document also provides the method for quantifying the credits associated with these impacts.
Biodiversity Conservation Act 2016	The NSW legislation that sets the provisions of the Biodiversity Offsets Scheme, among other things.
Biodiversity Conservation Fund (the Fund)	The fund that development proponents can pay into to transfer their credit obligations to the Biodiversity Conservation Trust. The Biodiversity Conservation Trust must use the money earned from the payment to source like-for-like credits in the market, to acquit its liability for these credit obligations. Sometimes referred to by the initialism 'BCF'.
Biodiversity Conservation Fund Charge System	The method set by the Biodiversity Conservation Trust to calculate the amount of money that a proponent must pay into the Biodiversity Conservation Fund to transfer offset liabilities. This system was preceded by the Biodiversity Offsets Payment Calculator.
Biodiversity Conservation Trust (the Trust)	A non-profit NSW Government organisation tasked with partnering with landholders to enhance and conserve biodiversity across NSW. In the Biodiversity Offsets Scheme, the Trust's current role is to manage the Biodiversity Conservation Fund and Biodiversity Stewardship Payments Fund, and support landholders once they have entered into a Biodiversity Stewardship Agreement. Sometimes referred to by the initialism 'BCT'.
Biodiversity credit	The standardised unit to measure biodiversity impacts in the Biodiversity Offsets Scheme. Biodiversity credits can be traded on the biodiversity credits market.
Biodiversity offset	A way to compensate for unavoidable impacts on biodiversity from development or clearing.
Biodiversity Offsets Scheme (the Scheme)	The framework for offsetting unavoidable impacts on biodiversity from development with biodiversity gains through landholder stewardship agreements. The biodiversity credits market forms part of the Scheme. Sometimes referred to by the acronym 'BOS'.
Biodiversity Stewardship Agreement	An agreement registered on the title of land to conserve habitat for native species and ecosystems and generate biodiversity credits to be sold to credit buyers who have offset obligations or want to secure conservation. The agreement is in perpetuity and the sale of credits is meant to fund the management of conservation. Sometimes referred to by the initialism 'BSA'.
Biodiversity Stewardship Payments Fund	A fund that provides annual payments to Biodiversity Stewardship Agreement holders for land management costs.
Credit buyer	An individual or organisation seeking to buy biodiversity credits on the market, to meet development consent conditions or for some other purpose.
Credit obligation	The need to purchase credits in the market to satisfy biodiversity offset requirements of a development or clearing approval. Credit obligations may be passed on to the Biodiversity Conservation Trust by paying a certain amount into the Biodiversity Conservation Fund.
Credit supplier	A landholder that has entered into a Biodiversity Stewardship Agreement to sell credits on the market and fund conservation management on their land.
Credits Supply Fund	A fund used by the NSW Government to buy in-demand credits to sell to public or private proponents who need to offset biodiversity impacts. Proceeds are re-invested to buy more credits.

Term	Description
Credits Supply Taskforce (the Taskforce)	A part of the Department of Planning and Environment that is tasked to operate the Credits Supply Fund, fast-track the supply of biodiversity credits and approve new Biodiversity Stewardship Agreements. Sometimes referred to by the initialism 'CST'.
Department of Planning and Environment (the Department)	The NSW Government department responsible for administering the Biodiversity Offsets Scheme. After 1 January 2024, the Department will split into the Department of Planning, Housing and Infrastructure and the Department of Climate Change, Energy, the Environment and Water.
Ecosystem credit (and Offset Trading Group)	A biodiversity credit representing impacts on vegetation associated with ecological communities. Ecosystem credits are classified by Offset Trading Groups, which group ecosystem credit types for trading purposes.
IBRA (sub)region	The Interim Biogeographic Regionalisation for Australia, a classification of areas of Australia's land according to common environmental characteristics.
Like-for-like rules	The rules that decide what credits can be used to offset biodiversity impacts. They seek to ensure that biodiversity impacts are offset with biodiversity that is very similar to the biodiversity that is being impacted.
Major project	Major projects include 'state significant development' and 'state significant infrastructure' such as mines, roads and dams. The Biodiversity Offsets Scheme automatically applies to all major projects.
Market broker	An agent who assists credit buyers and/or sellers to trade in the market.
Market/credit transaction	A transfer of credits between distinct entities in the market.
Proponent	An individual or organisation undertaking development according to a development consent. Many proponents will be credit buyers but not all credit buyers are proponents.
Retiring credits	Once someone with a credit obligation has purchased credits, they must retire the credits to prove they have met their credit obligation.
Reverse auction	The tender process used by the Credits Supply Taskforce to purchase in-demand credits to sell to credit buyers.
Species credit	A biodiversity credit representing impacts on species of flora or fauna.
Total Fund Deposit	The value of money needed to cover future Biodiversity Stewardship Agreement management costs, paid into the Biodiversity Stewardship Payments Fund when a Biodiversity Stewardship Agreement holder sells credits. Sometimes referred to by the initialism 'TFD'.

Appendix C 📎

Case Study – Sydney Water

Navigating costs, risk and uncertainty: establishing stewardship sites and selling credits



Who	Sydney Water Corporation (Sydney Water)		
About	An NSW state-owned corporation responsible for supplying water, wastewater, recycled water and some stormwater services to more than 5 million people.		
Operating location	Greater Sydney region and the Illawarra.		
Engagement with the market	 Operates on both sides of the Biodiversity Offsets Scheme market as: a landholder that has established Biodiversity Stewardship Agreements (BSAs) to create and sell credits (supplier) a proponent that has credit obligations from its projects, operations and developments (buyer). 		

Sydney Water Corporation (Sydney Water) is a NSW state-owned corporation responsible for supplying water, wastewater, recycled water and some stormwater services to more than 5 million people. It operates in the Greater Sydney region and Illawarra.¹¹³

It operates on both sides of the Biodiversity Offsets Scheme market as:

- a landholder that has established Biodiversity Stewardship Agreements to create and sell credits (supplier)
- a proponent that has credit obligations from its projects, operations and developments (buyer).

Sydney Water has 2 active Biodiversity Stewardship Agreement sites.

Picton Farm (Greater Sydney region) Entered into agreement in 2019 Winmalee (Blue Mountains region) Entered into agreement 2022

These sites create credits that Sydney Water can use:

- internally for credit obligations or potential future obligations that arise from its operations and development
- to sell to proponents, the Biodiversity Conservation Trust (the Trust) or the Credits Supply Taskforce (the Taskforce).

C.1 Entering into a Biodiversity Stewardship Agreement – what decisions need to be made?

Sydney Water has several factors it considers when assessing if it should enter into a stewardship agreement. Early considerations include the size and location of the land, other uses for the land, and heritage. Typically, only land with no other income-generating potential is considered for a stewardship agreement.

Before formally assessing a potential site with accredited assessors, Sydney Water conducts a feasibility study (desktop research) to examine the potential financial viability of using land as a stewardship site. Box C.1 outlines this typical process and related high-level decisions.



Box C.1 Process to establish a stewardship site and selling credits

Entering and engaging in the market



C.2 Changing landscape: applying for and establishing stewardship sites

Sydney Water's sites, Picton Farm and Winmalee, were established at different times and under different processes:

- Picton Farm was established early in the life of the Biodiversity Offsets Scheme and through dealing solely with the Biodiversity Conservation Trust (the Trust).
- During the process to establish the Winmalee site, the Credits Supply Taskforce was established. Management and support for the application was transferred from the Trust across to the Taskforce.

Picton		Winmalee	
Government entity: Biodiversity Conservation Trust Duration: 2 years Cost (excluding internal labour costs): \$70-100,000			Government entity: Credits Supply Taskforce (transferred from Biodiversity Conservation Trust early in the process) Duration: 6 months Cost (excluding internal labour costs): \$50- 80,000
1.	Tender for accredited assessor	1.	Tender for accredited assessor
2.	Accredited accessor conducts field assessment and produces a Biodiversity Stewardship Assessment Report (BSSAR), including management plans	2.	Accredited accessor conducts field assessment and produces a Biodiversity Stewardship Assessment Report (BSSAR), including management plans
3	Complete forms and application paperwork and submit	З.	Complete forms and application paperwork and submit
4.	Biodiversity Conservation Trust's accredited assessor conducts another assessment of the site to confirm the BSSAR	4.	Credits Supply Taskforce assesses application for technical and legal requirements
5.	Biodiversity Conservation Trust assesses application for technical and legal requirements	5.	Biodiversity Stewardship Agreement site approved, and credits can be sold
6.	Biodiversity Stewardship Agreement site approved, and credits can be sold	-	
Current site status: Total Fund Deposit amount fulfilled; site is now in active management with annual payments from the Biodiversity Conservation Trust and able to sell remaining credits at a pro-		ofit	Current site status: Biodiversity Stewardship Agreement approved, no credits sold.

C.2.1 Formal assessment, application and creation process

C.2.2 Improvements over time

The application processes can incur high costs for landholders both through internal labour cost and engaging external third parties to conduct assessments (a requirement of the application process).



The long time it takes to establish a site is a risk for Sydney Water with no guaranteed timeframe or deadlines. This can impact planning and financial accounts, especially if the period crosses over into a new financial year.

Sydney Water found the process to establish its second site (Winmalee) more manageable than the experience with Picton Farm, due to:

- an increased internal understanding of the Biodiversity Offsets Scheme after the process of establishing Picton Farm
- the Credits Supply Taskforce speeding up processes, creating a single point of contact for applications (more responsive), and providing a predicted timeline with key performance indicators.

Sydney Water uses in-house legal, tax and technical advice regarding the implications of stewardship sites. This still represents an internal labour cost but reduces direct up-front costs of acquiring external advice or gaining more guidance from credited assessors. Smaller landholders, or those without significant resources, are unlikely to have the same capabilities.

C.3 Selling credits: barriers, manual processes and limited information

Sydney Water encounters challenges navigating the Biodiversity Offsets Scheme, even as a large and well-resourced corporation. It has found success with selling to the Biodiversity Conservation Trust and the Credits Supply Taskforce through their respective tender and reverse auction processes. It has also sold directly to proponents. Another success factor is that Sydney Water can use the credits it generates to offset its developments.

C.3.1 What are some challenges and issues?



Shortfall payments

If landholders with stewardship agreements sell credits for less than the average credit price, as calculated as part of their Total Fund Deposit, they must pay a top up amount to value of the average credit price. This impacts which credits Sydney Water is willing to sell until the Total Fund Deposit is met. To avoid the shortfall payment, Sydney Water does not sell low-value credits that are under the average credit price. Even if the demand exists, Sydney Water may not supply lower value credits for this reason until it has moved into active management.

Credit transfer processes

The credit transfer processes are complex, with manual processes and transfer forms requiring the landholder's signature and verification of identification. For large corporations, such as Sydney Water, this means the managing director. This can cause significant delay in transferring credits. Sydney Water has since changed its delegation manual and processes to try to limit these delays.

Credit registers

The Biodiversity Offsets Scheme registers do not fulfill many of Sydney Water's needs. Due to limited functionality, registers cannot be amended. All credits that are created are listed on the register. If Sydney Water has reserved credits for internal use or earmarked credits for sale to another party, the register cannot be amended to reflect this. Interested buyers do contact Sydney Water via information on the registers, highlighting the value of public registers.

C.4 The next phase: active management

Sydney Water's Picton stewardship site has moved to active management now that the Total Fund Deposit has been paid in full through the sale of credits. It now receives annual payments from the Biodiversity Stewardship Payments Fund to manage the site based on the management plans set up by the stewardship agreement.



As it is early in this stage for the site, it is yet to be determined if there are any specific issues with management of the site or if the annual payments are adequate.

Uncertainly exists regarding the flexibility of management plans and timings, particularly if unexpected events occur. It can be difficult to know where to go to gain this information or who to speak to from the different government bodies involved in the Scheme. This can be an onerous and time-consuming process.

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