



Biodiversity offsets schemes – an emerging market for cotton growers

Aim: to undertake a sample economic case study under an environmental offsets scheme

Introduction

Policies for offsetting biodiversity losses are used in at least 33 countries around the world, cumulatively restoring and protecting 8.3 million hectares of land.¹ In 2019 the Australian Government announced funding for the implementation of an Australian Farm Biodiversity Scheme,² to be developed and led by the National Farmers' Federation. As part of the Agriculture Stewardship Package, the aim of the scheme is to reward all Australian farmers for managing biodiversity on farm through market-based mechanisms and to enable the continued provision of natural capital benefits to the wider community. In addition to strategic national initiatives on valuing ecosystems services, the NSW and QLD Governments have mandates on environmental offsets which compensate for unavoidable impacts on significant environmental matters (e.g. conservation of significant species and ecosystems) on one site, by securing land at another site (like-for-like). This land is managed over a period of time, to replace those significant environmental matters which were lost.

“Biodiversity offset schemes aim to reward farmers for managing species and ecosystems through market-based mechanisms.”



The Grey-crowned babbler is listed as threatened fauna in NSW (image courtesy Cotton Birds App)

QLD Environmental Offsets Framework

The QLD Government is currently undertaking a review of that State’s Offsets Policy Framework. Following widespread consultation by the Qld Government, there is consensus across all stakeholder groups that reform is needed, and the framework requires better alignment with the Commonwealth Government’s offset framework. The outcome of the stakeholder engagement process indicate an interest from QLD parties in being able to register their interest in providing land for a land-based offset, prior to the declaration taking place, and also a preference for less complexity within the offset framework. This indicates the State may be moving towards more of an alignment with NSW processes and best practice.



is a joint initiative of



A four-year plan to amend the current QLD legislation is in place, with the view to implementation of an overhauled policy, including establishing an offset market prior to the expiry of the current policy on 1 September 2024.

NSW Biodiversity Offsets Scheme

Under the NSW Biodiversity Offset Scheme it is necessary for developers who clear native vegetation or fauna habitat to provide offsets to compensate the loss of biodiversity values from their development site once certain thresholds are achieved. The framework for the scheme was established under the NSW *Biodiversity Conservation Act 2016* (BC Act). The result of this legislation is that there is a market for biodiversity “credits” under the scheme. These credits are created by establishing a Biodiversity Stewardship Site on private land, through a Biodiversity Stewardship (permanent) Agreement between the land owner and the NSW Minister for the Environment, which is administered by the Biodiversity Conservation Trust (BCT).

Cotton growers manage vast amounts of farmland and riparian zones encompassing valuable ecosystems and threatened flora and fauna. This fact sheet provides an introduction to

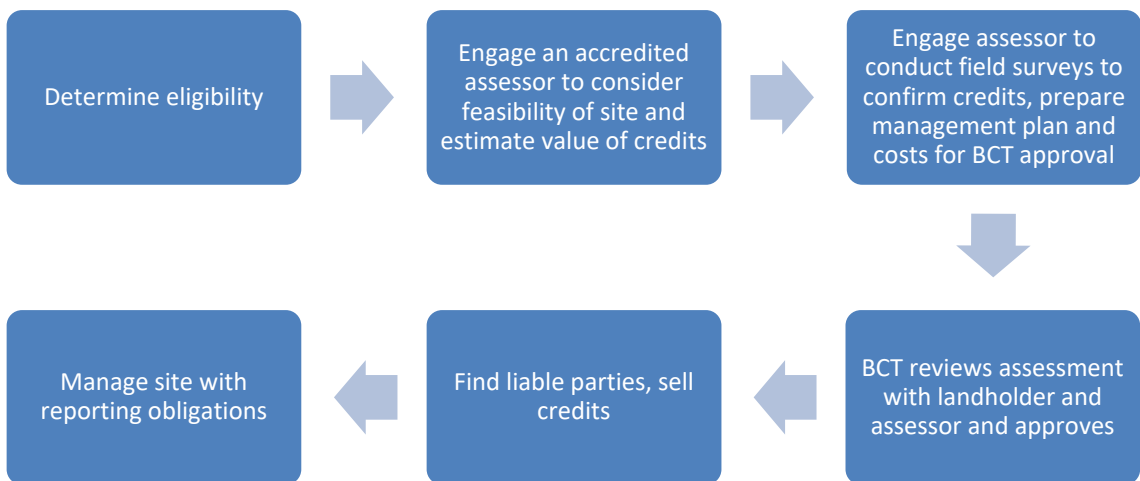
environmental offsets and provides a NSW-based economic case study of how a cotton grower may participate in this new and emerging market.

How can participating in biodiversity offsets benefit you?

There can be significant benefits in establishing a site on your land. The areas of your land that contain threatened species habitat or areas of high biodiversity values may be better managed for conservation due to limited grazing capacity, or to provide a diversity and consistency of income streams. Additionally, establishing a site on your land can, if done properly and in the right areas, prove to be a value proposition as an alternative land-use. Note that typically grazing and other farm practices are ceased or highly limited.

How do I establish a biodiversity stewardship site and sell credits?

If you live in NSW, your accredited assessor can give you an idea of the likely number of credits generated by your site and the potential return in doing so. The schematic below provides a flow-chart of steps and processes into registering a site and selling credits.



Schematic illustrating the pathway and milestones of developing an area of farmland as an offset site in NSW.

A sample 400 ha environmental offset site in the Lower Namoi, NSW

The following sample BCT project has been derived from registered assessors operating in western NSW,⁴ as well as other published material available online. The table below shows some time lapse between the desktop assessment and selling credits. Identifying flora and fauna species and formulation of management plans must be undertaken to a standard acceptable by the BCT, hence a lag between document submission and site approval. The tax implications vary between individual landholder structures and the receipt of payments is a complex issue⁵, requiring tailored legal and accounting advice. Once credits have been generated and sold to a certain threshold, payments from the [Total Fund Deposit](#)⁶ (TFD) become activated. These annual payments occur in exchange for site maintenance and monitoring through the life of the agreement. If a TFD is conservatively structured, with contingencies built in, annual payments may exceed the cost of required management which must be priced at contractor rates as agreed to with the BCT. If



credit sales exceed the overall TFD, the remaining proceeds are retained by the landholder.

Economic profit drivers

Those sites with rare and endangered flora and fauna may be highly sought after by developers under the Biodiversity Offsets Scheme and likely attract a market premium for credit prices. TFD amounts, credit types yields (per hectare) generating surplus sales is the key driver of site economics. Management actions such as excluding livestock from the site have been factored in the example, however some low-level grazing to control weed growth or otherwise manage vegetation may be allowed depending on the vegetation at the site.

Sample summary of a generic 400ha biodiversity offsets project (containing a small portion of a threatened ecological community) in the Lower Namoi region, NSW, showing costs, benefits and potential timelines for site accreditation.

Activity	Month	Costs	Benefits
Desktop site assessment (accredited assessor)	January 2021	\$2,500	
Site visit, mapping and flora and fauna surveys. BSSAR document for submission	July 2021	\$85,000	
BCT Lodgement Fee	August 2021	\$2,552	
Legal and accounting advices	September 2021	\$15,000	
Credit Sales activating Total Fund Deposit (TFD) and annual management fee	February 2022		\$950,000
Excess Credit Sales (net value less taxes)	December 2022		\$750,000
Interest cost accrued (@5%)	Jan 2021-Jan 2023	\$7,750	
Annual opportunity cost of lost production (100 cows agistment \$10/wk/52 weeks)		\$52,000 p.a	
Total		(\$164,802)	\$1,700,000



Closing comments

Environmental offsets policy involves transforming different qualities into a common metric to enable comparison. The aim of such policy is the commodification of biodiversity and ecosystems services to facilitate the expansion of market trade to previously non-market areas of the environment. Studies of trading elsewhere in the world have found the government plays a vital role in establishing property rights, organising biodiversity assessment methods and regulating transactions by reviewing each case of reported losses and gains.

While cotton growers in NSW may benefit from establishing a biodiversity site on their land, close consideration needs to be given to the process and requirements. The market for offsets is immature and indicative credit values have traded on thin volumes since the introduction of the scheme.

With plans in other jurisdictions to implement offset trading and the National Farmers Federation driving policy that aims for 5% of farmers' income to be derived from ecosystem services by 2030,⁷ this is an emerging area of non-core farm income worth following.



Acknowledgements

Simon Tweed at [Nich-eh](#) for assisting with cost and benefit estimates for the example in this study, and Sarah Beitel at [Epic Environmental](#) for her policy review and input.

References

1. <https://www.sciencedirect.com/science/article/pii/S0301479718313458>
2. <https://www.agriculture.gov.au/ag-farm-food/natural-resources/landcare/sustaining-future-australian-farming>
3. <https://customer.lmbc.nsw.gov.au/assessment/AccreditedAssessor>
4. <https://ecosure.com.au/wp-content/uploads/2020/08/BSA-Case-Study-Blueberry-NSW.pdf>
5. <https://www.bct.nsw.gov.au/sites/default/files/2020-09/BCT%20Landholder%20guide%20on%20taxation%20issues%20-%20Sep%202020.pdf>
6. <https://www.bct.nsw.gov.au/biodiversity-offsets-program-outcomes>
7. https://nff.org.au/wp-content/uploads/2020/02/NFF_Roadmap_2030_FINAL.pdf

Further Information

- <https://www.qld.gov.au/environment/pollution/management/offsets>
- <https://www.bct.nsw.gov.au/>
- <https://nff.org.au/key-issue/natural-capital/>

Or email the study author Jon Welsh: jon@agecon.com.au

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Box gum grassy woodland (left) and Squirrel Gliders (right) are considered threatened flora and fauna respectively in NSW (images courtesy NSW LLS and Wildlife Preservation Society QLD).