

Statutory Review of the native vegetation provisions (Part 5A and Schedule 5A and Schedule 5B) of the *Local Land Services Act 2013*

August 2023

Preamble

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Please note that issues and questions to consider in this Report are not exhaustive and do not necessarily represent Government policy.

Table of Contents

Preamble	2
Acknowledgement of Country	4
Key Terms	5
Executive Summary	7
<i>Background</i>	7
<i>The Review</i>	7
<i>Key Findings and Recommendations</i>	9
Overview	13
<i>Context of this Review</i>	13
<i>Purpose</i>	14
<i>Scope</i>	14
<i>Approach</i>	15
Key Findings and Recommendations	17
1. <i>The policy objective and provisions remain valid</i>	17
2. <i>Improve management of identified environmental risks</i>	21
3. <i>Reduce unallocated clearing</i>	25
4. <i>Expand support and incentives for landholders</i>	31
5. <i>Enhance transparency and awareness of the Land Management Framework</i>	36
Appendix A: Land Management and Biodiversity Conservation Reforms	40
Appendix B: Consultation Process	42

Acknowledgement of Country

The Review acknowledges the Traditional Custodians of the land and pays respect to Elders past, present and future. We also recognise the unique, diverse and enduring cultures of Aboriginal peoples and communities in NSW.

Obligations to care for Country remain integral to Aboriginal and Torres Strait Islander lore, identity, culture and social and emotional well-being. We understand that Aboriginal and Torres Strait Islander peoples have a significant contribution to make and hold special knowledge and rights regarding the management of land and its resources.

Key Terms

Term	Definition
Authorisations	Native vegetation clearing applications authorised by Local Land Services under the Land Management (Native Vegetation) Code 2018 .
Allowable Activities	Allowable Activities are part of the Land Management Framework and permit landholders to clear for routine land management activities associated with agriculture and rural areas (e.g., securing fence lines or farm infrastructure) without approval.
The Act	Local Land Services Act 2013
Biodiversity Conservation Trust (BCT)	The NSW Biodiversity Conservation Trust was established under Part 10 of the Biodiversity Conservation Act 2016 to partner with landholders to enhance and conserve biodiversity across NSW.
Biodiversity Offsets Scheme (BOS)	The Biodiversity Offsets Scheme was established under the Biodiversity Conservation Act 2016 as the framework for offsetting unavoidable impacts on biodiversity from development, with biodiversity gains through landholder stewardship agreements.
The Land Management (Native Vegetation) Code 2018 (the Code)	The Land Management (Native Vegetation) Code 2018 (the Code) is a key part of the Land Management Framework that sets out the types of native vegetation clearing allowed on rural regulated land and rules for each type of clearing, including criteria to notify or seek Local Land Services approval before clearing, and set aside requirements to compensate for the impacts of certain types of clearing.
Department of Planning and Environment (DPE)	The NSW Department of Planning and Environment is responsible for a range of public functions and brings together specialists in urban and regional planning, natural resources, industry, environment, heritage, Aboriginal and social housing, and Crown lands and water.
The Land Management and Biodiversity Conservation Reforms	The Land Management and Biodiversity Conservation Reforms describe the broad package of NSW Government reforms to land management and biodiversity conservation which commenced in 2017, comprising amendments to the Local Land Services Act 2013 and the new Biodiversity Conservation Act 2016 .
The Land Management Framework	Sets out the types of native vegetation management activities allowed on rural regulated land and the rules for each type – it includes the Land Management (Native Vegetation) Code 2018 .
The Government	The New South Wales (NSW) Government.
Local Land Services (LLS)	The NSW Government agency established under the Local Land Services Act 2013 to deliver biosecurity, natural resources management and agricultural advisory services.
The Native Vegetation Regulatory Map	The Native Vegetation Regulatory Map is a central component of the Land Management Framework that identifies rural land in NSW where clearing of native vegetation is, and is not, regulated under the Act.
The Native Vegetation Panel	The Native Vegetation Panel is an agency established under the Act that provides an assessment pathway for clearing proposals that do not meet the requirements of Allowable Activities or the Code and it requires the application of the Biodiversity Offsets Scheme and triple bottom line decision-making.

Term	Definition
Part 5A	Land management laws under Part 5A of the Local Land Services Act 2013 which commenced in August 2017.
The Regulation	Local Land Services Regulation 2014
Schedule 5A	Sets out the provisions relating to Allowable Activities landholders can carry out without needing to notify or seek approval from Local Land Services, or approval from the Native Vegetation Panel.
Schedule 5B	Sets out provisions relating to members of the Native Vegetation Panel and procedures of the Panel.
Statutory Review	Statutory Review of Part 5A and Schedule 5A and Schedule 5B of the Local Land Services Act 2013
Unallocated clearing	Unallocated clearing refers to clearing or disturbance in landcover detected from satellite imagery that does not need approval, has not been recorded or is unlawful. This is reported in the Department of Planning and Environment's annual woody and non woody landcover change on rural regulated land report (generally referred to as SLATS).

Executive Summary

Background

In 2017, the NSW Government introduced the Land Management and Biodiversity Conservation Reforms. The Reforms included amendments to the *Local Land Services Act 2013* and the new *Biodiversity Conservation Act 2016* (see [Appendix A: Land Management and Biodiversity Conservation Reforms](#)). They have been designed jointly to ensure a balanced approach to land management in NSW – the *Local Land Services Act 2013* focuses on providing flexibility in rural land management through a risk-based Land Management Framework, while the *Biodiversity Conservation Act 2016* aims to increase biodiversity conservation through investment in private land conservation, native plants and animals, and biodiversity offsets.

The Review

The Minister for Agriculture is required to carry out a five-year statutory review (the Review) of the native vegetation provisions contained in Part 5A and Schedule 5A and Schedule 5B of the *Local Land Services Act 2013* (the Act). Local Land Services (LLS) supported the Minister for Agriculture to undertake this Review, with guidance from an Independent Expert Advisory Panel.

The Review has been carried out in conjunction with the [Statutory Review of the Biodiversity Conservation Act 2016](#).

In accordance with Section 212 of the Act, this Review considered whether the objectives of this part of the Act remain valid, and whether the terms of those provisions remain appropriate for achieving the objectives of this part of the Act.

The objects of Part 5A of the Act are “to ensure the proper management of natural resources in the social, economic and environmental interests of the State, consistently with the principles of ecologically sustainable development (described in section 6 (2) of the *Protection of the Environment Administration Act 1991*).”

The provisions of the Act are commonly described as the ‘Land Management Framework’ which set out the types of native vegetation management activities allowed on rural regulated land and the rules for each type – it includes supporting tools such as the Native Vegetation Regulatory Map, the Land Management (Native Vegetation) Code 2018 and the Native Vegetation Panel. The underlying principle of the Framework is to ensure a balanced approach to land management and biodiversity conservation in NSW.

The Government acknowledged the Land Management and Biodiversity Conservation Reforms may lead to some increased clearing at a property scale, but that checks and balances, such as set asides, biodiversity offsets and investment in private land conservation, would ensure the impacts of clearing are managed.

A public consultation program commenced on 14 November 2022 with the release of a discussion paper, which received 184 public submissions. Targeted consultation occurred with 24 key stakeholder groups and government agencies from November 2022 to February 2023 (see [Appendix B](#)). A survey was also undertaken with 2,400 rural landholders across NSW to understand their views on native vegetation and management activities, and awareness and use of the Land Management Framework¹.

The Review commissioned independent economic, social and environmental studies to provide an evidence base and inform the analysis, with guidance from the Independent Expert Advisory Panel.

The Review considered the recommendations and agreed NSW Government responses to the [NSW Audit Office \(2019\) *Managing Native Vegetation*](#) report and the [NSW Natural Resources Commission](#)

¹ Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

(2019) Land management and biodiversity conservation reforms: Final advice on a response to the policy review point.

The Review found the policy objectives of the Act remain valid and the terms of the provisions of the Act are appropriate for achieving these objectives. However, to ensure the objectives continue to be achieved and to further improve the outcomes of the native vegetation provisions, this Review makes recommendations to:

- better manage environmental risks
- reduce unallocated clearing (assisted by the release and continual improvement of the Native Vegetation Regulatory Map)
- support and incentivise landholders to value and protect native vegetation
- improve transparency and awareness of the Land Management Framework.

The Review also noted key points of consensus from diverse stakeholder groups' feedback:

- Native vegetation was widely valued for a range of environmental services such as water quality, soil conservation, native plants and animals, and natural scenery – with most landholder survey respondents (83%) indicating that “protecting native vegetation on my property is important to me”.²
- Expanding landholder incentives is an effective way to value and protect native vegetation – for example, landholders surveyed identified the most effective ways for the Government to promote the conservation of native vegetation as: “more government grants to protect and manage native vegetation” (76%), and “more opportunities to generate income from environmental markets such as carbon and biodiversity” (68%).³
- LLS plays an important role in supporting landholders to understand and comply with the Land Management Framework. This was reflected in the landholder survey with 75% of respondents stating that “more support from LLS to landholders to better understand and implement native vegetation management practices” is an effective way for the Government to help conserve native vegetation.⁴

These aspects were described as key enablers to supporting landholders undertaking critical agricultural production in NSW, in a way that is consistent with the principles of ecologically sustainable development.

² Landholders surveyed for the Review valued their native vegetation for a range of services, with the most common benefits of native vegetation that it:

- “is important for shade or shelter” (91%)
- “protects and helps manage environmental aspects such as water quality, soil conservation, native plants and animals” (86%)
- “is important for the natural scenery and aesthetic” (82%).

Moreover, most respondents (83%) were personally motivated, indicating that “protecting native vegetation on my property is important to me”. From a total of 2,400 survey respondents. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

³ From 1,763 survey respondents. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁴ From 1,763 survey respondents. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

Key Findings and Recommendations

The policy objective and provisions remain valid ([chapter 1](#))

The Review found the policy objectives of the Act remain valid and the terms of the provisions of the Act are appropriate for achieving these objectives. However, to ensure the objectives continue to be achieved and to further improve the outcomes of the native vegetation provisions, this Review makes recommendations to:

- better manage environmental risks
- reduce unallocated clearing (assisted by the release and continual improvement of the Native Vegetation Regulatory Map)
- support and incentivise landholders
- improve transparency and awareness of the Land Management Framework.

Improve management of identified environmental risks ([chapter 2](#))

Key findings	Recommendations
Landholders use the Land Management Code mostly for managing Invasive Native Species and mosaic thinning. The level of authorisations under these components of the Code are high and could, if fully activated, present an environmental risk.	2.1 Improve administration and outcomes of authorisations to manage environmental risk and reduce the cleared area for: <ol style="list-style-type: none">a) Invasive Native Species (INS) by developing a protocol for treatment area specificity for Part 2, Division 2 as well as a landholder guide for assessing whether INS are acting invasively (under Part 2, Division 1 of the Code).b) Mosaic thinning by establishing limits on tree canopy opening sizes and processes for improved location, selection and documentation of retained areas, and requirements for these areas.
Critically Endangered Ecological Communities (CEECs) are protected but some key stakeholders suggest this could be stronger, including through improved identification and mapping.	2.2 Strengthen protections for Critically Endangered Ecological Communities (CEECs) in the Land Management Framework by: <ol style="list-style-type: none">a) Department of Planning and Environment to improve identification and mapping of CEECs, with further support provided by LLS for landholders to strengthen on-ground management of CEECs.b) Amending the Land Management (Native Vegetation) Code to enable a condition assessment, where agreed by the Minister for Agriculture and the Minister for the Environment, to permit use of the Code only on non-viable CEECs and restrict use of Allowable Activities on viable CEECs.
Extremes in weather and changes in climate are likely to become more severe in the future and climate change risk management and tools are not currently built into the Land Management Framework.	2.3 Develop a risk-based framework, that is approved by the Minister for Agriculture and the Minister for the Environment, to respond to major climatic events (e.g., wildfires, floods, biosecurity events).

Reduce unallocated clearing (chapter 3)

Key findings	Recommendations
<p>The high level of unallocated clearing reduces public confidence in the Land Management Framework. While there have been efforts to allocate clearing activities, unallocated clearing on native grasslands / non-woody vegetation remains high (89% of all unallocated clearing in 2021).</p> <p>In addition, the method to map non-woody vegetation change has not been independently reviewed since 2017.</p>	<p>3.1 Reduce unallocated clearing through better identification of native grasslands / non-woody vegetation:</p> <ol style="list-style-type: none">a) Introduce interim requirements for landholder self-assessments of native grasslands / non-woody vegetation to be reported to LLS.b) The Minister for Agriculture and the Minister for the Environment jointly appoint an independent body or expert panel to:<ol style="list-style-type: none">i. review the process and method to identify and monitor annual landcover change on rural regulated land, particularly for native grasslands and other non-woody vegetationii. review how unallocated clearing of non-woody vegetation is defined and classifiediii. advise on improvements to the method used to identify and map native dominated non-woody vegetationiv. consult with LLS and the Department of Planning and Environment to inform the review.
<p>The Native Vegetation Regulatory Map is a key component of the Land Management Framework. Releasing the Map will support landholders to understand what categories of land they have on their properties. This will help to allocate native vegetation management activities and reduce unallocated clearing.</p> <p>However, there are some concerns about the accuracy of the Map, particularly for grasslands / non-woody vegetation.</p>	<p>3.2 Staged release of the draft Native Vegetation Regulatory Map state-wide to help landholders understand the categories of land on their properties and to better allocate native vegetation management activities, including measures for continuous improvement:</p> <ol style="list-style-type: none">a) LLS supporting landholders in understanding what categories of land they have on their properties, to help with the allocation of native vegetation management activities, particularly for grasslands / non-woody vegetation.b) Improving the Map's accuracy through landholder triggered Map reviews undertaken by the Department of Planning and Environment, in conjunction with independent annual reviews of the map and improvements to mapping of grasslands / non-woody vegetation (see Recommendation 3.1b).
<p>Allowable Activities are not currently monitored and therefore, may contribute to unallocated clearing.</p>	<p>3.3 Better monitoring and reporting of Allowable Activities through satellite imagery and ground-truthing, as part of the Monitoring Evaluation and Reporting Framework (see Recommendation 5.1).</p>

Expand and support incentives for landholders ([chapter 4](#))

Key findings	Recommendations
<p>Submissions from key stakeholder groups and the landholder survey indicate LLS is highly valued for its role in providing education and extension services to support the Land Management Framework.</p>	<p>4.1 Continue to strengthen education and extension for landholders to support the Land Management Framework, including:</p> <ol style="list-style-type: none">Helping landholders to understand the Native Vegetation Regulatory Map categories and relevant rules on their property (see Recommendation 3.2).Strengthening communication, extension and compliance activities on the use of Allowable Activities to ensure they are used for 'routine' practices and 'to the minimum extent necessary'.
<p>Natural capital markets are developing and landholders strongly support incentives as a way of increasing protection of native vegetation and ensuring payment for their efforts.</p> <p>The NSW Government has now made significant investments in the NSW Landcare Program to support more on-ground activities in sustainable agriculture and improving native vegetation management on private lands.</p>	<p>4.2 Expand delivery of incentives to landholders to retain and enhance native vegetation through a nature positive approach with increased access to environmental markets, including through natural capital funding, development of on-farm and regional natural capital accounts, and a whole-farm planning landscape stewardship initiative.</p>
<p>The Native Vegetation Panel is not being used to its full potential, with only one application received over five years. The key barrier to its use is the high credit and assessment costs associated with using the Biodiversity Offsets Scheme.</p>	<p>4.3 Improve processes and guidance available to the Native Vegetation Panel to support landholders in avoiding and mitigating the impacts of clearing prior to using biodiversity offsets (e.g., set-asides, replanting) – this should include linkages with Natural Resource Management plans in LLS regions.</p>
<p>Aboriginal cultural heritage and practices are not adequately incorporated in the current Land Management Framework. This does not correspond with the Government's commitments to supporting connections to Country under the national Closing the Gap Agreement.</p>	<p>4.4 LLS engage with Aboriginal stakeholders and communities to support Aboriginal cultural heritage, practices and connections to Country throughout the provisions and implementation of the Land Management Framework.</p>

Enhance transparency and awareness of the Land Management Framework (chapter 5)

Key findings	Recommendations
Stakeholder confidence in the Land Management Framework is being impacted by a lack of transparent and consistent monitoring, evaluation and reporting, including limited details on compliance and enforcement actions.	5.1 Increase public transparency and reporting of the Land Management Framework by: <ul style="list-style-type: none">a) Appointing the Natural Resources Commission to oversee the establishment of a LLS developed Land Management Monitoring, Evaluation and Reporting Framework that includes regular and ongoing reporting on the outcomes of the Land Management Framework.b) Department of Planning and Environment to report on a range of compliance and enforcement actions (including penalties, warning letters, response to Enviroline inquiries).
The intended balance between native vegetation loss and gain built into the Land Management Framework is not well reported. This balance is being achieved with the combined area of set asides and in-perpetuity private land conservation agreements.	5.2 Establish monitoring and an annual reporting process for woody vegetation loss and regrowth/revegetation (net change) on rural regulated land, with oversight by an independent body or expert panel (see Recommendation 3.1b) and in consultation with LLS and the Department of Planning and Environment.
The Biodiversity Offsets Scheme inquiry and public submissions from local governments identify areas to strengthen engagement with councils to reduce risks of non-agricultural clearing in peri-urban areas.	5.3 LLS improve engagement with local government on the Land Management Framework to reduce the risk of misusing Allowable Activities for non-agricultural clearing (this risk will also be reduced by implementing Recommendation 4.1b).

Overview

Context of this Review

In 2017, the NSW Government introduced the Land Management and Biodiversity Conservation Reforms (the Reforms) in response to the recommendations of a 2014 [Review](#) by the Independent Biodiversity Legislation Review Panel⁵. The Reforms included amendments to the *Local Land Services Act 2013* and the new *Biodiversity Conservation Act 2016*. They have been designed jointly to ensure a balanced approach to land management and biodiversity conservation in NSW – the *Local Land Services Act 2013* focuses on providing flexibility to landholders in rural land management through a risk-based Land Management Framework, while the *Biodiversity Conservation Act 2016* aims to increase biodiversity conservation through investment in private land conservation, native plants and animals and biodiversity offsets.

The Reforms encompassed in Part 5A of the *Local Land Services Act 2013* acknowledge that, in a rural context, native vegetation needs to be continually managed as part of routine agricultural practices (e.g., maintaining existing pastures, securing rural infrastructure such as fences). In some cases, native vegetation is cleared to support agricultural productivity (e.g., expanding pastures or cropping areas, enabling installation of new technologies or use of larger machinery, converting underutilised agricultural land to cropping, grazing). Native vegetation also needs to be managed for environmental purposes (e.g., for Invasive Native Species and thinning to promote native grasslands).

Together, the Reforms comprise the following:

- **The Land Management Framework**, including a Land Management (Native Vegetation) Code, which sets out the types of native vegetation management activities that are allowed on private rural land and the rules for each type.
- **Investment in private land conservation**, including agreements with private landholders.
- **Biodiversity Offsets Scheme**, a market-based scheme to allow the unavoidable impacts of development to be offset by the creation of biodiversity credits.
- **Improved frameworks to manage native plants and animals**, including investment in the Saving our Species program.

Local Land Services (LLS), the Department of Planning and Environment and the Biodiversity Conservation Trust have interconnected responsibilities in relation to the implementation of the broader Land Management and Biodiversity Conservation Reforms.

See [Appendix A: Land Management and Biodiversity Conservation Reforms](#) for more detail on the Land Management and Biodiversity Conservation Reforms and the roles and responsibilities of agencies.

The Land Management Framework

The Land Management Framework sets out the types of native vegetation management activities allowed on rural regulated land and the rules for each type. It includes the following supporting tools:

- [Native Vegetation Regulatory Map](#) which identifies private rural land and Western Land Leases that are regulated under the Framework.
- [Land Management \(Native Vegetation\) Code 2018](#) (the Code) sets out the types of native vegetation clearing allowed on rural regulated land and rules for each type of clearing,

⁵ [Independent Biodiversity Legislation Review Panel \(2014\) A review of biodiversity legislation in NSW: Final Report](#)

including criteria to notify or seek Local Land Services approval before clearing, and set aside requirements to compensate for the impacts of certain types of clearing.

- *Allowable Activities* permit landholders to clear for everyday land management activities associated with agriculture and rural areas, such as securing fence lines or farm infrastructure, without approval.
- *Native Vegetation Panel* is an agency established under the Act that provides an assessment and approval pathway for clearing proposals that do not meet the requirements of Allowable Activities or the Code. This pathway requires the application of the Biodiversity Offsets Scheme and triple bottom line decision-making.
- *Offences and penalties* for carrying out illegal native vegetation clearing.
- The requirement to *publicly report* on the estimated rates of Allowable Activities and maintain a public register of the level of notifications, certifications and areas set aside under the Code.

Purpose

Section 212 of the Act requires the Minister for Agriculture to carry out a five-year statutory review of the native vegetation provisions contained in Part 5A and Schedule 5A and Schedule 5B of the Act⁶.

The purpose of the Review is to determine if the policy objectives of these provisions remain valid and whether the terms of the provisions themselves remain appropriate for securing the objectives of the Act.

Scope

LLS is supporting the Minister to carry out the review, with the assistance of an Independent Expert Advisory Panel comprising:

- **Dr Neil Byron – Chair and expert in agricultural/environmental policy and economics:** Adjunct Professor in Environmental Economics at the University of Canberra. Served for 12 years as National Productivity Commissioner, presiding over 25 inquiries into economic, environmental, and social issues including the Murray-Darling Basin. In 2014, Neil chaired the independent review of Biodiversity Legislation in NSW, which led to the development of the Land Management and Biodiversity Conservation Reforms. Previously an Assistant Commissioner and then Acting Commissioner of the NSW Natural Resources Commission, Trustee of NSW Biodiversity Conservation Trust, a member of the Wentworth Group of Concerned Scientists, a member of the Independent Science Panel for Great Barrier Reef Rescue Plan and the Expert Knowledge Panel of the NSW Marine Estate Management Authority.
- **Dr Sheridan Coakes – expert in social impact assessment:** PhD in community psychology and an honours degree in psychology from Curtin University, Sheridan has more than 30 years research and applied experience in the areas of social impact assessment (SIA) and stakeholder and community engagement. Currently serving as a Commissioner at the Independent Planning Commission and a member of the Certified Environmental Practitioners Scheme Board.
- **Dr Charlie Zammit – expert in ecology and natural resource management:** Ecological consultant and board member, and Adjunct Professor for the Australian Research Council Centre of Excellence for Environmental Decisions, The University of Queensland. Previously Assistant Secretary, Biodiversity Conservation Branch, Commonwealth Department of

⁶ Section 212, Local Land Services Act 2013.

Sustainability, Environment, Water, Population and Communities overseeing major programs including the implementation of the National Heritage Trust and Caring for our Country, and implementation of the Land Sector Package of Clean Energy Future program, including the Biodiversity Fund.

- **Jim Binney – expert in agricultural economics:** Economic practitioner with Bachelor of Business (Finance) and Economics (Honours) and more than 25-years’ experience with a major focus on the integration of natural resource management into mainstream policy, decision-making and investment. Formerly Director of Economics for the Queensland Department of Natural Resources with responsibility across climate change and regional natural resource management. He has previously held appointments including Director of Queensland Trust for Nature.

The Review considers the objective of the Act relevant to Part 5A: “to ensure the proper management of natural resources in the social, economic and environmental interests of the State, consistently with the principles of ecologically sustainable development (ESD).”

An assessment has been undertaken of:

- whether the objective of this Part of the Act remains valid for achieving the social, economic and environmental interests of the State, consistently with the principles of ecologically sustainable development (ESD)
- whether the terms of the provisions remain appropriate for securing the objectives of the Act and if any areas need to be improved.

This Review does not include a comprehensive assessment of the *Land Management (Native Vegetation) Code 2018* (the Code), the *Local Land Services Regulation 2014* (the Regulation), or the other components of the Land Management and Biodiversity Conservation Reforms. However, some recommendations have been made on changes to the Code and Regulation in the Review, where this would meet the objectives of the Act.

The Review has been carried out concurrently with the Statutory Review of the Biodiversity Conservation Act 2016 by the Minister for the Environment.

Approach

The Review undertook key stakeholder and landholder consultation, alongside independent economic, social and environmental studies and other data collection and analysis, to build a triangulated evidence base to inform the findings and recommendations.

A public consultation program commenced on 14 November 2022 with the release of a discussion paper which received 184 public submissions. Targeted consultation occurred with 24 key stakeholder groups and government agencies from November 2022 to February 2023 (see Appendix B: Consultation).

The Review commissioned independent economic, social and environmental studies, with guidance from the Independent Expert Advisory Panel, including:

- Resilient and Healthy Landscape Review⁷: a technical analysis of key environmental indicators to determine the impact the Framework has had on the resilience of the NSW landscape since it was introduced.
- Landholder Survey⁸: a survey of 2,400 rural regulated landholders across all LLS regions in NSW to understand landholders’ views on native vegetation and management, their contact with LLS and other key organisations, and awareness of the Land Management Framework.

⁷ 2Rog Consulting (2023) *Resilient and Healthy Landscapes Review 2017-2022*. Report to Local Land Services, July 2023.

⁸ Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

- Financial Modelling and Analysis of Native Vegetation Clearing Approvals⁹: a financial assessment to understand the impact of the likely cost of obtaining Native Vegetation Panel approval on the viability of proposed agricultural projects.
- Socioeconomic Profiling¹⁰: of key agricultural, socioeconomic and socio-demographic data and trends since the introduction of the Act for each of the 11 LLS regions.

The Review also considered:

- relevant policies and practices undertaken in other jurisdictions
- data from the Department of Planning and Environment’s annual woody and non woody landcover change on rural regulated land report, and from the Biodiversity Conservation Trust
- relevant media on land clearing, the Act and its implementation.

The timeline of the Review process is summarised below.



⁹ Arche Pty Ltd, (2023) *Financial modelling and analysis of obtaining native vegetation clearing approval under Division 6 of Part 5A of the Local Land Services Act 2013*. Report prepared for Local Land Services, February.

¹⁰ Geografia (2023) *Local Land Services Socio-Economic Profiles*. Report to Local Land Services, July 2023.

Key Findings and Recommendations

1. The policy objective and provisions remain valid

Key finding and recommendation

The Review found the policy objectives of the Act remain valid and the terms of the provisions of the Act are appropriate for achieving these objectives. However, to ensure the objectives continue to be achieved and to further improve the outcomes of the native vegetation provisions, this Review makes recommendations to:

- better manage environmental risks
- reduce unallocated clearing (assisted by the release and continual improvement of the Native Vegetation Regulatory Map)
- support and incentivise landholders
- improve transparency and awareness of the Land Management Framework.

The policy objective of the native vegetation provisions in the Act is “to ensure the proper management of natural resources in the social, economic and environmental interests of the State, consistently with the principles of Ecologically Sustainable Development (ESD).”

The central aim of integrating economic, social and environmental interests consistently with ESD¹¹ reflects ongoing global and domestic commitments and is supported by various stakeholder groups as an appropriate risk-based approach. ESD remains the relevant benchmark across environmental and natural resource management legislation in all Australian jurisdictions, and is embedded within various global commitments and frameworks, including agricultural and biodiversity initiatives.

Some Australian jurisdictions incorporate additional legislative objectives for native vegetation regulation beyond ESD, and internationally some jurisdictions are focussed on managing climate risks and using incentives to enhance environmental stewardship and natural capital in the agricultural sector.¹² However, the Review recommends that the current policy objective is sufficiently broad to accommodate responses to international and domestic trends in natural resource management – particularly to address climate risks¹³, value and measure natural capital as part of a ‘nature positive’ approach, and utilise incentives and market instruments to achieve environmental outcomes.¹⁴ The requirement for natural resource management to be “in the broader interests of the State” enables the policy objective to be responsive to emerging issues and priorities, as determined by the Government.

The Review found that while the Act’s objective and supporting provisions are sufficient to address environmental, social and economic challenges, specific mechanisms within the native vegetation provisions can be refined and improved to meet current and emerging risks and opportunities. The Review identified that the Framework be refined to:

¹¹ Ecologically Sustainable Development (ESD) is defined in section 6(2) of the *Protection of the Environment Administration Act 1991* (NSW). ESD seeks to integrate economic, environmental and social considerations into decision-making processes through the precautionary principle, intergenerational equity, conservation of biological diversity and ecological integrity and improved valuation, pricing and incentive mechanisms.

¹² In January 2023, the World Economic Forum identified the failure of climate change mitigation, failure of climate change adaptation, natural disasters and extreme weather events and the loss of biodiversity and ecosystem collapse as the top four highest global risks over the next 10 years: World Economic Forum, *The Global Risks Report 2023 18th Edition: Insight Report*, January 2023, pp 29-35

¹³ By incorporating the principles of ESD, the policy objective is responsive to climate change as it requires the implementation of the precautionary principle and the principle of intergenerational equity.

¹⁴ There is an increasing international focus on measuring and reporting on natural capital and leveraging new market mechanisms to drive environmental outcomes, with some jurisdictions setting requirements for their agriculture and forestry supply chains to reduce environmental impacts. This shift presents new markets and opportunities for sustainable resource management and conservation in NSW. In addition, Australian Environment Ministers have committed to take action “to build a nature positive Australia” : [Environment Ministers Meeting \(June 2023 Agreed Communiqué](#). This concept shifts from a focus on trade-offs to maximising outcomes across all social, economic and environmental dimensions.

- better manage environmental risks (Section 2)
- reduce unallocated clearing (assisted by the release and continual improvement of the Native Vegetation Regulatory Map) (Section 3)
- support and incentivise landholders (Section 4)
- improve transparency and awareness of the Land Management Framework (Section 5).

These refinements will work together to ensure the provisions are better able to respond to climate change and environmental risks and advancements in natural capital, while ensuring the policy objective and outcomes are achieved and clearly reported to the public.

1.1 The provisions are achieving an appropriate balance in native vegetation management

Part 5A of the Act is designed as part of the integrated Land Management and Biodiversity Conservation Reforms to balance flexibility in rural land management and agricultural production with improved biodiversity conservation.

Overall, the Review concludes the Land Management Framework is maintaining an appropriate balance between providing flexibility to landholders to improve agricultural productivity, while responding to environmental risks.

Agriculture in NSW saw 37% growth in production value from 2016 to 2021. This was led by broadacre crops (up 54% to \$10.4 billion), followed by livestock production (up 15% to \$8.1 billion) and horticultural production (up 75% to \$2.7 billion).¹⁵ This growth was mostly in the agricultural hinterland regions, particularly the Western LLS region (which saw a 53% growth in production), Riverina (51% growth) and Central West (54% growth). These same regions saw increases in the average size of farms due to farm agglomeration, which was seen across broadacre and grazing-based agricultural economies.¹⁶

From the landholder survey undertaken for this Review, the most common reason for applying to clear land under the Land Management Framework was to increase productivity and efficiency. However, managing pests and weeds and promoting ecological health of native vegetation were also important. The majority (79%) of landholders who had applied to clear land under the Land Management Framework¹⁷ were satisfied with what was approved and with the information and support from LLS during the application process.

The majority of landholders surveyed valued their native vegetation for a range of services, with the most common benefits of native vegetation that it:

- “Is important for shade or shelter” (91%)
- “Protects and helps manage environmental aspects such as water quality, soil conservation, native plants and animals” (86%)
- “Is important for the natural scenery and aesthetic” (82%).¹⁸

Most respondents (83%) were personally motivated to protect native vegetation, indicating that “protecting native vegetation on my property is important to me”.¹⁹

¹⁵ Geografia (2023) *Local Land Services Socio-Economic Profiles*. Report to Local Land Services, July 2023.

¹⁶ Geografia (2023) *Local Land Services Socio-Economic Profiles*. Report to Local Land Services, July 2023.

¹⁷ Out of a total of 52 respondents who had applied to clear land under the Land Management (Native Vegetation) Code. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

¹⁸ Out of a total of 2,400 respondents who had applied to clear land under the Land Management (Native Vegetation) Code. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

¹⁹ Out of a total of 1,763 respondents who had applied to clear land under the Land Management (Native Vegetation) Code. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

The latest annual clearing data from the landcover change report indicates that authorised clearing of woody and non-woody vegetation under the Code is made up of:

- 15,306 hectares of woody and non-woody vegetation cleared to facilitate improved farm productivity (Parts 3-6 of the Code), and
- 16,541 hectares of Invasive Native Species (Part 2 of the Code) managed to improve environmental outcomes.²⁰

Under the previous legislation (the *Native Vegetation Act 2003*) which was implemented in December 2005, an average of over 437,000 hectares per year was approved to be cleared (December 2005 - August 2017). However, under the Land Management Framework, the area of vegetation approved to be cleared averages less than 178,000 hectares per year (including management of invasive native species).

The long-term average woody vegetation loss state-wide due to agriculture 'pre-reform' (i.e. 1988-2017) was 17,980 hectares²¹. Although the annual woody vegetation loss at the end of the *Native Vegetation Act 2003* and the start of Part 5A of the Land Management Framework was above the long-term average, by 2020 and 2021, the area of woody vegetation loss due to agriculture had declined to 13,000 and 15,411 hectares respectively²².

The vegetation loss in agriculture has been primarily driven by approvals under the previous legislation (the *Native Vegetation Act 2003*), with 46,215 hectares cleared under approval of the previous legislation and 31,847 hectares (woody and non-woody) under Part 5A of the Act (including INS management). In addition, the rate of native vegetation clearing under Part 5A of the Act is lower than the long-term average up to December 2021, with average annual clearing of 7,962 hectares per year (woody and non-woody)²³. This equates to an actual clearing rate of approximately 4.8 percent under the LLS Act (i.e., the rate of authorisations that are actually cleared).

There are two key mechanisms to balance the environmental risk from native vegetation clearing²⁴:

- some clearing under the Code requires land to be set aside for 'in-perpetuity' conservation on the same property; or
- landholders can register conservation agreements with associated financial incentives under the Biodiversity Conservation Trust.

From commencement of reforms to December 2021, 71,094 hectares had been conserved in-perpetuity in set asides and 87,729 hectares²⁵ in in-perpetuity Biodiversity Conservation Trust agreements (158,823 hectares in total) (see Figure 1).

This equates to over 10 hectares of native vegetation conserved in-perpetuity for every hectare of native vegetation authorisation actually cleared under the Land Management Framework (excluding Invasive Native Species).

²⁰ Department of Planning and Environment (2023) 2021 NSW Vegetation clearing report. Available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-vegetation/landcover-science/2021-nsw-vegetation-clearing-report>

²¹ Department of Planning and Environment, (2023) [Long-term trends in woody vegetation clearing](#).

²² Department of Planning and Environment (2023) 2021 NSW Vegetation clearing report. Available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-vegetation/landcover-science/2021-nsw-vegetation-clearing-report>

²³ Department of Planning and Environment (2023) 2021 NSW Vegetation clearing report. Available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-vegetation/landcover-science/2021-nsw-vegetation-clearing-report>

²⁴ Government acknowledged that this new approach 'may lead to some increased clearing at a property scale, but there are checks and balances to ensure that the impacts of that clearing are managed through a suite of set asides, caps, offsets, investments, market-based instruments, monitoring and regulatory enforcement'.

²⁵ Private land conservation agreements spatial data was provided by the Biodiversity Conservation Trust

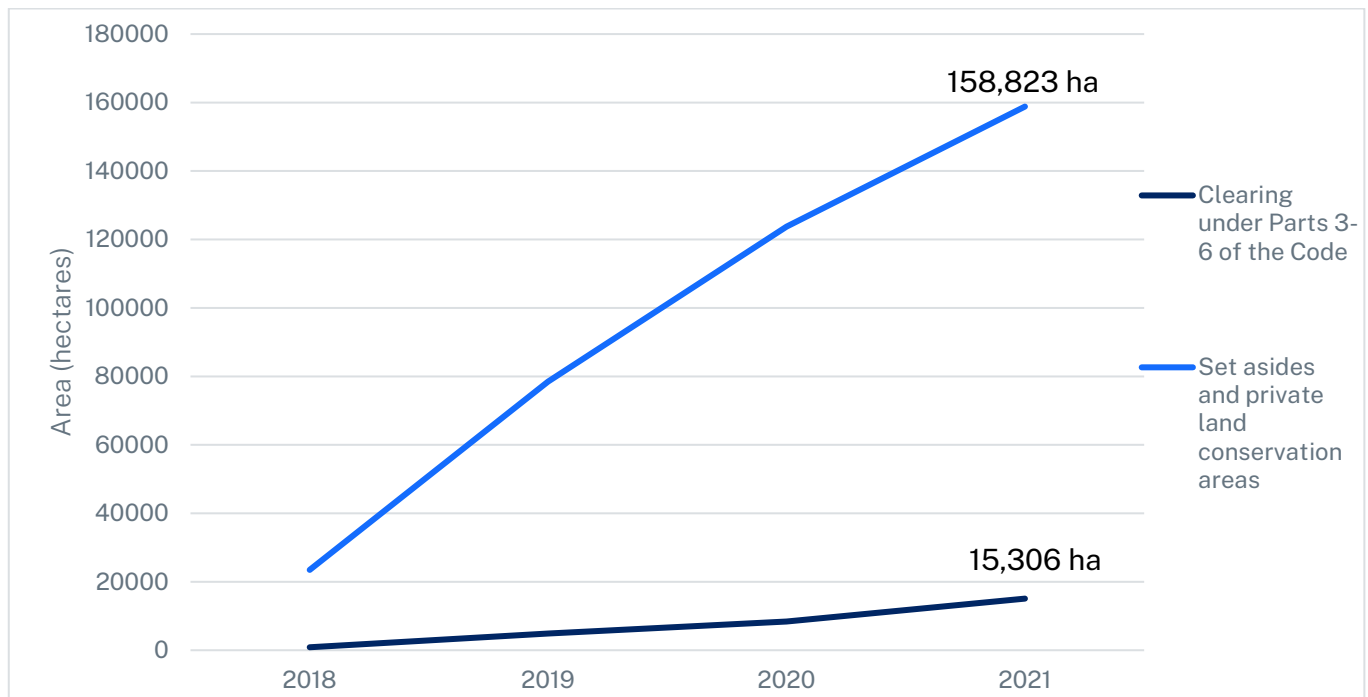


Figure 1: Cumulative clearing under the Land Management (Native Vegetation) Code and set asides and in-perpetuity Biodiversity Trust Agreements (not incl Biodiversity Stewardship Agreements) private land conservation across NSW 2018-2021²⁶

The cumulative area of set asides and Biodiversity Conservation Trust agreements ‘in-perpetuity’ between August 2017 and December 2022 was 217,135 hectares. This compares to 217,397 hectares of in-perpetuity conservation agreements between 1990 and mid-2017 – therefore in-perpetuity private conservation is occurring at more than 5 times the previous rate from 1990 to mid-2017.²⁷

Clearing Invasive Native Species (Part 2 of the Code) was not included in the analysis because this part of the Code aims to achieve an environmental rather than a production outcome. Similar to Invasive Native Shrub Property Vegetation Plans (PVPs) under the previous legislation (the *Native Vegetation Act 2003*), Part 2 of the Code provides for the management of Invasive Native Species that have reached unnatural densities or are invading a plant community where they are not previously known to occur. The average annual area of Invasive Native Species authorisations under the previous *Native Vegetation Act 2003* was over 425,000 hectares compared to the annual average of under 145,000 hectares under the Land Management Framework.

Unallocated clearing has also been excluded from this analysis as this category contains a range of areas of disturbance, including:

- lawful clearing or reduction of landcover that does not require an approval or notification
- vegetation loss or disturbance for which there are no information or records to authorise, explain or allocate the disturbance to a particular land management activity
- areas that have been cleared unlawfully or are not fully compliant with approvals (see Section 3 for further explanation of unallocated clearing).

The Review found the intended balance between clearing and conservation is not effectively reported publicly and there is limited awareness that the Land Management Framework is achieving this balance. It is important there is timely, impartial, and ongoing reporting of both vegetation loss and gains as it relates to both the Land Management Framework as well as the broader Land

²⁶ 2Rog Consulting (2023) *Resilient and Healthy Landscapes Review 2017-2022*. Report to Local Land Services, July 2023 ; Department of Planning and Environment (2023) *2021 NSW Vegetation clearing report*. Available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-vegetation/landcover-science/2021-nsw-vegetation-clearing-report>

²⁷ 2Rog Consulting (2023) *Resilient and Healthy Landscapes Review 2017-2022*. Report to Local Land Services, July 2023.

Management and Biodiversity Conservation Reforms. It is recommended that this be achieved through improved Monitoring, Evaluation and Reporting (see Recommendation 5.1).

2. Improve management of identified environmental risks

The Land Management Framework adopts a risk-based approach that is well established as good regulatory practice – to give landholders some flexibility to undertake routine low-risk land management activities on their land (e.g., putting in firebreaks and building fences) while managing and mitigating areas of higher risk from native vegetation clearing. The Review identified three areas of improvement to better manage these potential environmental risks.

2.1 Improving administration and outcomes for Invasive Native Species and Mosaic Thinning

Key finding	Recommendation
Landholders use the Land Management Code mostly for managing Invasive Native Species and mosaic thinning. The level of authorisations under these components of the Code are high and could, if fully activated, present an environment risk.	2.1 Improve administration and outcomes of authorisations to manage environmental risk and reduce the cleared area for: a) Invasive Native Species (INS) by developing a protocol for treatment area specificity for Part 2, Division 2 as well as a landholder guide for assessing whether INS are acting invasively (under Part 2, Division 1 of the Code) b) mosaic thinning by establishing limits on tree canopy opening sizes and processes for improved location, selection and documentation of retained areas, and requirements for these areas.

The Code permits native vegetation clearing in rural regulated land under Part 5A of the Act. Landholders must either notify or apply to LLS for approval to carry out the following activities which correspond with parts of the Code:

- **Invasive Native Species (INS) management (Part 2)** – is intended to improve the local environment by enabling landholders to treat INS that have reached unnatural densities and dominate an area or are invading an area where that species is not known to occur. These activities are not broadscale clearing – they are designed to promote the regeneration and regrowth of a more natural and diverse range of native vegetation.
- **Pasture expansion (Part 3)** – enables the thinning of woody native vegetation uniformly,²⁸ or in a mosaic pattern,²⁹ to promote native pastures and increase farm efficiency and productivity.
- **Continuing use (Part 4)** – enables the continuation of lawful land management activities that have been in place between 1990 and 25 August 2017.
- **Equity (Part 5)** – allows landholders to remove native vegetation in some cases and in exchange for establishing set aside areas that conserve and enhance similar, or higher conservation value, native vegetation in-perpetuity. In most cases, authorisation-to-set aside ratios are 1:2.
- **Farm Plan (Part 6)** – allows landholders to remove native paddock tree areas on Category 2 - regulated land in some cases and in exchange for establishing set aside areas that conserve and enhance native vegetation in-perpetuity. The ratio of set-aside land is dependent on the type of ecological communities being impacted.

²⁸ Uniform thinning allows thinning of woody vegetation to enhance native pasture growth, while requiring retention of a specific density of stems, native shrubs and groundcover, and ensuring maintenance of biological functions and ecosystem services.

²⁹ Mosaic thinning allows the removal of woody vegetation to expand native pastures, while requiring retention of at least 30 percent of the treatment area and remaining tree patches are at least 5 hectares and evenly distributed.

Higher risk clearing activities under the Code (Parts 5 and 6) require land to be set aside and managed for conservation permanently, to moderate any residual impacts to biodiversity.

The majority of rural land authorised for clearing (over 90% of total) corresponds with two parts of the Code: managing Invasive Native Species (Part 2 - INS) (80% of authorisations), and Pasture Expansion (particularly Part 3, Division 3 – Mosaic Thinning which totals 13% of authorisations) (see Figure 2).³⁰

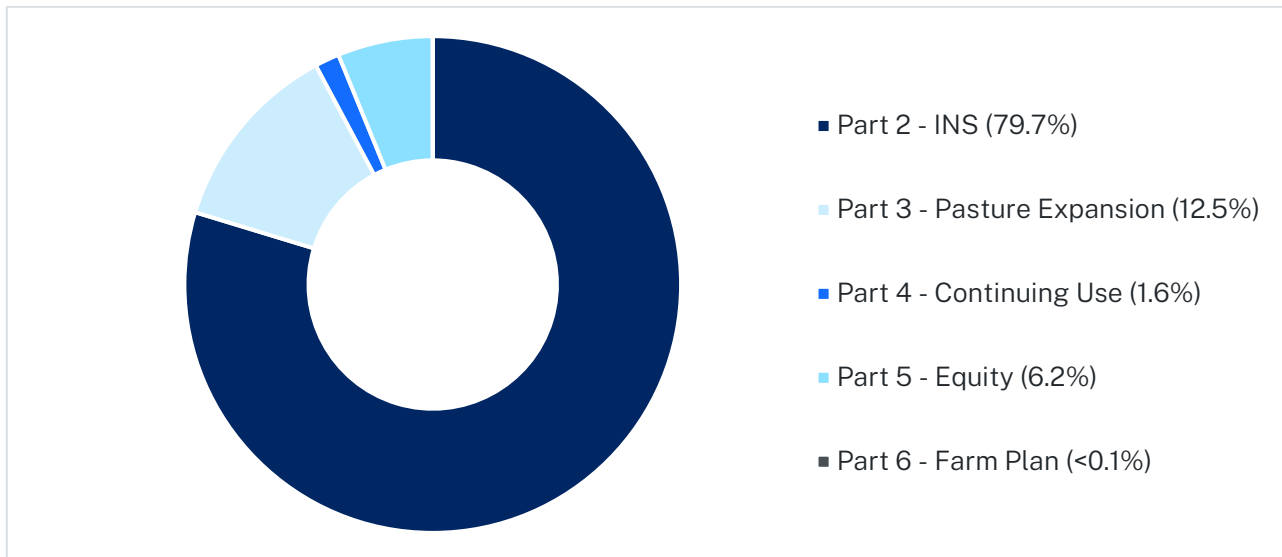


Figure 2 Proportion of authorisations under the Land Management (Native Vegetation) Code across NSW 2017-2022³¹

However, the use of these authorisations is low, with 15,306 hectares of the total area approved actually cleared up to December 2021 for Parts 3-6, and 16,541 hectares of authorisations cleared for the management of INS (Part 2).³² This limited extent of activating these authorisations is most likely due to known drivers of clearing rates such as commodity prices, climatic conditions,³³ and the relative expense of undertaking vegetation management.³⁴ Evidence suggests these parts of the Code are used by some rural landholders to enable productivity and efficiency gains and give flexibility to manage native vegetation without the need to activate all of the authorised area.³⁵

In addition, the average annual area of INS authorisations under the previous *Native Vegetation Act 2003* was over 425,000 hectares compared to the annual average of less than 145,000 hectares under the current Land Management Framework. Given the high rates of authorisations under the *Native Vegetation Act 2003* were also not fully activated it is highly likely that the same will apply to Invasive Native Species authorisations under Part 5A of the Act.

The Review identified that the main environmental risks posed by INS authorisations³⁶ comprise:

³⁰ 2Rog Consulting (2023) *Resilient and Healthy Landscapes Review 2017-2022*. Report to Local Land Services, July 2023.

³¹ 2Rog Consulting (2023) *Resilient and Healthy Landscapes Review 2017-2022*. Report to Local Land Services, July 2023.

³² Department of Planning and Environment (2023) *2021 NSW Vegetation clearing report*. Available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-vegetation/landcover-science/2021-nsw-vegetation-clearing-report>

³³ 2Rog Consulting (2023) *Resilient and Healthy Landscapes Review 2017-2022*. Report to Local Land Services, July 2023.

³⁴ Arche Pty Ltd, (2023) *Financial modelling and analysis of obtaining native vegetation clearing approval under Division 6 of Part 5A of the Local Land Services Act 2013*. Report prepared for Local Land Services, February, page 28.

³⁵ Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July 2023.

³⁶ Under Part 2 Division 1, landholders may remove Invasive Native Species listed for their LLS region provided they comply with basic criteria (retention of specific species over a certain size and a minimum stem density). This Division contains no requirement for the listed Invasive Native Species to be acting invasively within the treatment area, hence creating a risk that listed Invasive Native Species can be cleared but may not be acting invasively.

Under Part 2 Division 2, Invasive Native Species must be assessed by LLS to comprise at least 50% of the trees and shrubs in the treatment area; or, be invading a plant community where the species is not previously known to occur. Anecdotal evidence indicates

- limited treatment area specificity in assessments under Part 2, Division 2 of the Code to ensure the treatment area is only targeting areas where species are acting invasively³⁷
- lack of an invasiveness test for a landholder to use as part of Part 2, Division 1 of the Code.³⁸

These key areas of risk were also noted in previous reviews, and public submissions and key stakeholder consultation undertaken for this Review.

To address these risks, it is recommended that a protocol is developed to assist LLS staff to identify specific INS treatment areas for Part 2, Division 2 applications, and to develop and test a landholder guide to support self-assessment of INS, that is in line with the conditions of the Code for Part 2, Division 1 notifications.

While the intent of the Part 3, Division 3 (Mosaic Thinning) is to create a patchwork of clearing and retained area vegetation in the landscape, there is evidence that this is not always achieved due to a lack of clarity in the requirements of the provisions and minimal oversight of the identification and management of retained areas.³⁹ The Review recommends establishing guidelines about the limits on tree canopy opening sizes, a process for improved selection of retained area locations, and requirements for managing those retained areas.

The improvements to the administration of both Part 2 (INS) and Part 3, Division 3 (Mosaic Thinning) will strengthen the Code and maintain balanced environmental and productivity outcomes. These amendments will also result in a reduction in the area of authorisations for those parts of the Codes, particularly in LLS regions with higher use of these parts of the Code such as Western, Central West and Northern Tablelands.

2.2 Strengthening protections of Critically Endangered Ecological Communities

Key finding	Recommendation
Critically Endangered Ecological Communities (CEECs) are protected but some key stakeholders suggest this could be stronger, including through improved identification and mapping.	<p>2.2 Strengthen protections for Critically Endangered Ecological Communities (CEECs) in the Land Management Framework by:</p> <ul style="list-style-type: none"> a) Department of Planning and Environment to improve identification and mapping of CEECs, with further support provided by LLS for landholders to strengthen on-ground management of CEECs b) amending the Land Management (Native Vegetation) Code to enable a condition assessment, where agreed by the Minister for Agriculture and the Minister for the Environment, to permit use of the Code only on non-viable CEECs and restrict use of Allowable Activities on viable CEECs.

potential misinterpretation of this test and a lack of specified treatment area which is leading to authorisations for large areas, particularly in Western LLS region.

³⁷ There are two tests for 'invasiveness':

- Part 2 Division 1 (notification): invasive test is that the species is listed in Schedule 1 relevant to the LLS region, no need to satisfy whether the species is invading an area not previously known to occupy, or comprises >50% of trees and shrubs in treatment area.
- Part 2 Division 2 (mandatory certification): the species must be listed in Schedule 1 relevant to the LLS region, and the species needs to be invading an area it was not previously known to occupy, or comprises >50% of trees and shrubs in treatment area.

³⁸ Under Part 2 Division 1, landholders may remove Invasive Native Species listed for their LLS region provided they comply with basic criteria (retention of specific species over a certain size and a minimum stem density). This Division contains no requirement for the listed INS to be acting invasively within the treatment area, hence creating a risk that listed INS can be cleared but may not be acting invasively. Under Part 2 Division 2, INS must be assessed by LLS to comprise at least 50% of the trees and shrubs in the treatment area; or, be invading a plant community where the INS is not previously known to occur. Anecdotal evidence indicates a lack of specified treatment area, which is leading to authorisations for large areas, particularly in Western LLS region.

³⁹ Examination of processes for implementing Part 3, Division 3 (Mosaic Thinning) and authorisations identified potential issues with landholder interpretation of the provisions including the minimum retained canopy cover, retained patch size, and even distribution of the patches within the treatment area. In addition, retained areas are not identified within the documentation and can be selected by landholders without LLS guidance.

Clearing of native vegetation that forms part of a Critically Endangered Ecological Community (CEEC) is not allowed under the Code (except in low condition Monaro/Werriwa grasslands). In addition, any clearing of vulnerable or endangered ecological communities under the Code requires set-aside areas of equivalent conservation value.

In some cases, this Code exclusion has meant rural landholders cannot manage native vegetation in a way that benefits both the ecological value of those communities and the productive value of existing agricultural land uses. For example, an inability to effectively manage particular invasive native species, such as the incursion of Cypress Pine in an agricultural context, can result in areas of environmental degradation, such as declining species diversity, groundcover loss and soil erosion.

In addition, although Allowable Activities apply within CEECs, the Review has found that some Allowable Activities, such as airstrips and gravel pits, are not suitable for land with special biodiversity values, and, if acted on, could result in adverse environmental impacts on viable communities.

The protection of CEECs is a priority of Government and was raised across public submissions and key stakeholder consultation as an area that could be strengthened, including through improved identification and mapping. This will help landholders to understand where CEECs are and help them understand their options and obligations

The Review recommends that this strengthening can occur through:

- Department of Planning and Environment improving identification and mapping of CEECs, with further support provided by LLS for landholders to strengthen on-ground management of CEECs (see also Recommendation 3.2)
- enabling a condition assessment, where approved by the Minister for Agriculture and the Minister for the Environment, to permit use of the Code on non-viable CEECs on approval, and restricted use of some Allowable Activities on viable CEECs.

2.3 Being responsive to major climatic and biosecurity events

Key finding	Recommendation
Extremes in weather and changes in climate are likely to become more severe in the future and climate change risk management and tools are not currently built into the Land Management Framework.	2.3 Develop a risk-based framework, that is approved by the Minister for Agriculture and the Minister for the Environment, to respond to major climatic events (e.g., wildfires, floods, biosecurity events).

Biodiversity and agriculture are highly sensitive to extremes in weather and changes in climate – with major climatic events, including wildfires, floods and biosecurity events, projected to become more severe in the future.⁴⁰

The most recent drought (2017-19), Black Summer wildfires (2019-20) and severe storms and flooding (throughout 2022) all demonstrated significant impacts on regional NSW ecology, community and economy. For example, time-series analysis of agricultural and economic data undertaken for this Review revealed that, while all LLS regions were largely unaffected by the COVID-19 pandemic, they all saw falls in farm business returns and profits coinciding with the 2017-19 NSW drought.⁴¹

Climate change risk management and tools were not adequately built into the Land Management Framework in 2017. It is important the Land Management Framework is responsive to major climatic

⁴⁰ Adapt NSW (2022) *Climate change in NSW*. Based on NSW and Australian Regional Climate Modelling (NARClIM), an NSW Government led initiative that generates detailed climate projections and data for NSW. Available online: <https://www.climatechange.environment.nsw.gov.au/nsw>

⁴¹ Geografia (2023) *Local Land Services Socio-Economic Profiles*. Report to Local Land Services, July 2023.

events that have caused, or have the potential risk of causing, serious or irreversible environmental damage to native vegetation on private land at a regional scale. This also needs to be responsive to the social and economic risks to agricultural production and outcomes presented by these events.

Working with the relevant experts, such as the Rural Fire Service, LLS will develop a risk framework, and associated tools and protocols, that responds to a range of major climatic risks and underlying trends, and includes major events such as wildfires, floods, and biosecurity events (see also Recommendation 4.3). This climate risk framework will require approval from the Minister for Agriculture and the Minister for the Environment.

3. Reduce unallocated clearing

Unallocated clearing has only been reported since 2018 by the Department of Planning and Environment. This category for reporting clearing on rural regulated land includes:

- lawful clearing or reduction of landcover that does not require an approval, notification and/or keeping of records
- vegetation loss or disturbance for which the Department does not have access to information or records that authorise, explain or allocate the disturbance to a particular land management activity
- areas that have been cleared unlawfully or are not fully compliant with approvals.

Areas of landcover change or disturbance detected from satellite imagery are compared with known landcover change that has been authorised and recorded – such as under the *Local Land Services Act 2013*, the *Native Vegetation Act 2003*, or other legislation. Any remaining disturbance that cannot be attributed to an authorisation is reported as ‘unallocated clearing’.

Unallocated clearing should not be interpreted as solely referring to unauthorised or unlawful clearing. Unallocated clearing includes lawful clearing that does not require approval, notification and/or keeping of records, as well as clearing activities that occur under other legislative frameworks that are not reported, such as clearing under the *Rural Fires Act 1997*. It also captures disturbance of what could already be heavily modified grasslands or non-woody vegetation, and this is identified as clearing in the same manner as clearing woody native vegetation in a non-disturbed landscape.

Prior to 2021, unallocated clearing was consistently reported in annual landcover change reporting as being around 75% of total vegetation loss. The 2021 annual landcover change report by the Department of Planning and Environment has been able to attribute some woody vegetation loss to a new category of ‘presumed Allowable Activity’. The category ‘presumed Allowable Activity’ is not exclusive to clearing under the LLS Act and can also include lawful native vegetation clearing under other legislative frameworks, such as the Rural Boundary Clearing Code⁴². This has resulted in the reduction of unallocated clearing in the 2021 report to 61% of all vegetation loss.

While this new category of clearing provides more information on what native vegetation management activities are occurring on rural regulated land, there is still a high rate of unallocated clearing reported, and the majority (89%) of unallocated clearing is attributed to non-woody vegetation/grasslands.⁴³ This high rate of unallocated clearing erodes public confidence in the Land Management Framework, with key stakeholders and submissions noting this as a key concern.

The Review identifies three ways to reduce unallocated clearing and strengthen public understanding and confidence:

⁴² Available online: <https://www.rfs.nsw.gov.au/plan-and-prepare/boundary-clearing-tool>

⁴³ Department of Planning and Environment (2023) *2021 NSW Vegetation clearing report*. Available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-vegetation/landcover-science/2021-nsw-vegetation-clearing-report>

- better identification and assessment of native grasslands
- supporting landholders to understand categories of land on their properties to help with the allocation of agricultural practices (assisted by the release and continual improvement of the Native Vegetation Regulatory Map)
- better monitoring and reporting of Allowable Activities.

3.1 Better identification and assessment of native grasslands

Key finding	Recommendation
<p>The high level of unallocated clearing reduces public confidence in the Land Management Framework. While there have been efforts to allocate clearing activities, unallocated clearing on native grasslands / non-woody vegetation remains high (89% of all unallocated clearing in 2021).</p> <p>In addition, the method to map non-woody vegetation change has not been independently reviewed since 2017.</p>	<p>3.1 Reduce unallocated clearing through better identification of native grasslands / non-woody vegetation:</p> <ol style="list-style-type: none"> introduce interim requirements for landholder self-assessments of native grasslands / non-woody vegetation to be reported to LLS the Minister for Agriculture and the Minister for the Environment jointly appoint an independent body or expert panel to: <ol style="list-style-type: none"> review the process and method to identify and monitor annual landcover change on rural regulated land, particularly for native grasslands and other non-woody vegetation review how unallocated clearing of non-woody vegetation is defined and classified advise on improvements to the method used to identify and map native dominated non-woody vegetation consult with LLS and the Department of Planning and Environment to inform the review.

Most (89%) of the unallocated clearing occurs in non-woody vegetation and grasslands. There are well-known challenges in mapping and monitoring grasslands with remote sensing,⁴⁴ due to the extremely high resolution needed to identify grassland species, which include true grasses and other short-lived herbaceous species that can be just a few centimetres in size.⁴⁵ There is also no reliable method for determining if the grasslands subject to unallocated vegetation disturbance are native, and if they are native, the status of their ecological condition.⁴⁶

Indeed, analysis for this Review found that 65% of unallocated clearing occurs adjacent to land used for grazing, and 22% is next to land used for cropping (irrigated and dryland). This suggests unallocated clearing may be related to ongoing agricultural activity, which in some cases could be occurring in an already disturbed landscape⁴⁷.

Previous reviews have noted concerns around the accuracy of grasslands mapping. The Audit Office review noted stakeholder concerns about grassland mapping and subsequent attempts by the now Department of Planning and Environment to improve the accuracy – recommending a staged release

⁴⁴ Zhao *et al.* (2021) 'The potential of mapping grassland plant diversity with the links among spectral diversity, functional trait diversity, and species diversity', *Remote Sensing*, 13(15). <https://doi.org/10.3390/rs13153034>

⁴⁵ Currently, the Department of Planning and Environment's grassland remote sensing methods uses composite time-series products obtained from the Landsat satellite image archive, which has a maximum resolution of 25 metres. The higher resolution satellite images that are used for its Statewide Landcover and Tree Study (SLATS) monitoring only has a maximum resolution of 5 metres. These resolutions are too coarse to identify grassland species, which can be just a few centimetres in size. In addition, a recent meta-analysis concluded that, although spectral analyses have potential for estimating grassland biodiversity, they cannot currently be used with confidence (Thornley *et al.* (2023), Prediction of grassland biodiversity using measures of spectral variance: a meta-analytical review, *Remote Sensing*, 15(3). <https://doi.org/10.3390/rs15030668>).

⁴⁶ This issue is acknowledged by the Department in the NSW State Vegetation Type Map: Technical Notes which state that some plant community types are not mapped because "they lack sufficient survey information or cannot be differentiated by modelling, unsupervised remote sensing or environmental spatial layers". This includes 26 grassland-based PCTs.

⁴⁷ 2Rog Consulting (2023) *Resilient and Healthy Landscapes Review 2017-2022*. Report to Local Land Services, July 2023.

of the Native Vegetation Regulatory Map to allow sufficient time for landholder review and input.⁴⁸ The Natural Resources Commission supported this recommendation but noted there are currently significant inaccuracies within the map components dealing with native grassland-dominant landscapes and therefore, recommended the mapping for native grassland-dominant regions should only be released once there is confidence in the mapping of native grasslands.⁴⁹

The challenges in accurately monitoring and mapping grasslands remotely have led to the need for landholder-triggered map reviews and provisions for self-assessment and on-ground surveys, which also have their own resourcing and reliability challenges.

Landholders can request the Department of Planning and Environment to provide a Map category explanation report⁵⁰, or a map review for their land.⁵¹ As part of the map review, landholders can request what specific areas of the map need review and provide evidence they have to inform the determination (e.g., dates of past clearing/cultivation, clearing consents, photos). Note, this review process only applies in areas of the draft map release.

In addition, under the transitional arrangements in place under Part 5A, landholders are responsible for categorising their own land in areas that have not been publicly assigned a category. This can involve a landholder self-assessing the conservation value of groundcover. Areas comprising less than 50 percent native groundcover are low conservation, which is consistent with the Interim Grasslands and other Groundcover Assessment Method.⁵² There is no requirement for landholders to notify LLS or the Department of Planning and Environment of the outcome of a self-assessment.

To address this highly technical and complex area, it is recommended the Minister for Agriculture and the Minister for the Environment jointly appoint an independent body or expert panel to review the method and process to identify and monitor annual landcover change on rural regulated land, particularly for grasslands / non-woody vegetation. This component of the mapping method has not been independently reviewed since 2017. This will require agreement and consultation with LLS and the Department of Planning and Environment. As part of the review, the independent body or expert panel will advise on improvements to the method used to map native non-woody vegetation and identify the type of disturbance, and oversee development of on-ground tools for validating native grasslands (see Recommendation 3.1).

Acknowledging the significant challenges involved in improving grasslands / non-woody vegetation mapping, the Review recommends an interim measure for landholder self-assessment of grasslands to be reported to LLS – to enable early improvements in the allocation of clearing activities on grasslands.

⁴⁸ Audit Office of NSW (2012) Managing Native Vegetation. Performance Audit: New South Wales Auditor-General's Report, 27 June.

⁴⁹ NSW Natural Resources Commission (2019) *Land management and biodiversity conservation reforms: Final advice on a response to the policy review point*.

⁵⁰ The category explanation report explains why an area is mapped as Excluded (LLS Act 60A), Category 2-Exempt (LLS Act 60H), Category 2-Regulated (LLS Act 60I), Category 2-Sensitive Regulated (LLS Act 60J), LLS Regulation 108-114), and Category 2-Vulnerable Regulated (LLS Act 60E, 60F). See: <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/native-vegetation-regulatory-map/request-a-free-map-review>

⁵¹ LLS Act 60H-J describes how the Environment Agency Head determines map categorisations. LLS Act 60K-M describes the re-categorisation, review and appeal processes relating to map reviews.

⁵² See: <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/native-vegetation-regulatory-map/request-a-free-map-review/interim-grasslands-and-other-groundcover-assessment-method>

3.2 Supporting landholders understand what categories of land they have on their property

Key finding	Recommendation
The Native Vegetation Regulatory Map is a key component of the Land Management Framework. Releasing the Map will support landholders to understand what categories of land they have on their properties. This will help to allocate native vegetation management activities and reduce unallocated clearing. However, there are some concerns about the accuracy of the map, particularly for grasslands / non-woody vegetation.	<p>3.2 Staged release of the draft Native Vegetation Regulatory Map state-wide to help landholders understand the categories of land on their properties and to better allocate native vegetation management activities, including measures for continuous improvement:</p> <ul style="list-style-type: none"> a) LLS supporting landholders in understanding what categories of land they have on their properties, to help with the allocation of native vegetation management activities, particularly for grasslands / non-woody vegetation b) improving the Map's accuracy through landholder triggered Map reviews undertaken by the Department of Planning and Environment, in conjunction with independent annual reviews of the map and improvements to mapping of grasslands / non-woody vegetation (see Recommendation 3.1b).

The Native Vegetation Regulatory Map is a central component of the Land Management Framework – its function is to identify rural land in NSW where clearing of native vegetation is, and is not, regulated under the Act.

The Department of Planning and Environment has legislative responsibility to prepare and maintain the map. Remote sensing analyses provide an 'initial NVR map category assignment', which is included in the map.⁵³ There are two map categories: 'Category 1 – Exempt Land', and 'Category 2 – Regulated Land'. Native vegetation clearing on land mapped as Category 1 does not need authorisation under the Act, whereas Category 2 land is regulated and requires authorisation or compliance with the Act.

Category 2 – Regulated Land is designated where an area does not show signs of cultivation based on recent aerial images and exhibits low levels of disturbance between 1990 and 2017 based on time-series satellite analyses.⁵⁴ Category 2 – Regulated Land has two sub-categories: 'Vulnerable' and 'Sensitive' land which are based on legislative criteria to recognise land or vegetation which is environmentally sensitive, such as coastal wetlands or rainforest on which native vegetation clearing may be restricted or prohibited.

To date, only land considered 'Vulnerable' or 'Sensitive' (as part of Category 2 – Regulated lands) has been published in a Transitional Map. A draft map showing all map categories has also been published for 11 Local Government Areas in the Riverina, Murray and South-East regions of NSW.⁵⁵

The two remaining categories, 'Category 2 – Regulated' and 'Category 1 – Exempt', which make up approximately 78% of land in NSW, have been mapped, but have not been made publicly available due to concerns about the accuracy of the maps, particularly for grasslands / non-woody vegetation.

The map is viewed by many stakeholders, and identified in previous reviews, as a critical tool to enable landholders to understand their obligations, thereby allowing them to make better decisions about how they manage native vegetation on their property. However, some stakeholders felt that the map is currently not accurate enough to be regulatory, particularly for grasslands, and needs further ground-truthing. The previous review by the Natural Resources Commission also noted there

⁵³ Mapping scientists analyse aerial and satellite images to generate land use and vegetation maps, supported by validation through sampled ground-truthing. Over 120 other data sources were also used, including steep and highly erodible land mapping, threatened species records, and existing approvals and agreements. Improvements to the map method are ongoing, and the latest map method statement was published in 2022. Further information is available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/native-vegetation-regulatory-map/map-accuracy>

⁵⁴ Further information is available online: [Native vegetation regulatory map method statement appendices](#)

⁵⁵ See: <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/native-vegetation-regulatory-map/draft-native-vegetation-regulatory-map>

are significant issues with the accuracy of components of the map dealing with native grasslands-dominated landscapes.⁵⁶

A range of stakeholder group submissions raised concerns about the lack of a complete published map, which is seen as:

- limiting the outcomes of the Land Management Framework
- adding to unallocated clearing
- creating risks of unauthorised clearing
- reducing public transparency and credibility.

Many landholders are expressing frustration that the map exists but is not published. This is creating a sense of landholder uncertainty and mistrust, as well as potential misunderstanding of land categories and what native vegetation management actions are permitted.

There is also evidence that there is little awareness of the map, with only 38% of rural landholders surveyed stating they were aware of the map.⁵⁷ Where landholders have used the map, around half (51%) found it to be a useful tool.⁵⁸ Of the 49% who rated the map 'Not very useful' or 'Not at all useful'⁵⁹, the following reasons were most common: 'Doubt accuracy' (30%), 'Don't know how to use the map' (14%)⁶⁰, with LLS viewed as offering an important role in interpreting and implementing the map with landholders.

In addition, under half (44%) of those who had used the map felt confident in the accuracy of the information.⁶¹ Of the 56% who were not confident in the accuracy, the main reasons were: 'The map data does not reflect what I know about my property' (70%), 'The map doesn't contain enough detail about the vegetation on my property' (55%), 'Waiting for final map to be released' (15%), and 'I still had to seek more information from LLS staff' (12%).⁶²

The Review recommends the staged release of the draft Native Vegetation Regulatory Map to improve landholder awareness and confidence. Landholder awareness of the map and the categories of native vegetation on their property will mean they will know when to contact the Department of Planning and Environment to request a map review, and when to contact LLS to request an authorisation for native vegetation clearing under the Code. This will improve the identification and allocation of native vegetation management and clearing activities. The process for releasing the map needs to include provisions for continuous improvement through:

- LLS supporting landholders to understand what categories of land they have on their properties, to help with the allocation of agricultural activities on grasslands / non-woody vegetation
- improving the Map's accuracy through landholder triggered Map reviews undertaken by the Department of Planning and Environment, in conjunction with independent annual reviews of the map and improvements to mapping of grasslands / non-woody vegetation (see Recommendation 3.1b).

⁵⁶ NSW Natural Resources Commission (2019) *Land management and biodiversity conservation reforms: Final advice on a response to the policy review point*.

⁵⁷ The landholder survey found that only 38% of landholders (out of 1,763 who responded to that question) had heard of the Map. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁵⁸ The landholder survey found that 51% (of 374 landholders surveyed who had used the Map) found the Map useful. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁵⁹ The landholder survey found that the 49% (of 374 landholders surveyed who had used the Map) did not find the Map useful. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁶⁰ Out of a total of 374 landholders who responded to the question. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁶¹ Out of a total of 184 landholders who responded to the question. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁶² Out of a total of 208 landholders who did not feel confident in the accuracy of the Map. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

3.3 Better monitoring and reporting of Allowable Activities

Key finding	Recommendation
Allowable activities are not currently monitored and therefore may contribute to unallocated clearing.	3.3 Better monitoring and reporting of Allowable Activities through satellite imagery and ground-truthing, as part of the Monitoring Evaluation and Reporting Framework.

Allowable Activities cover a range of routine land management activities associated with agriculture in rural areas, such as clearing for fence lines and firebreaks within region-specific limits.⁶³ This pathway aims to provide greater flexibility and decision-making autonomy to landholders by allowing for routine agricultural land management activities that are low risk to biodiversity, without the need to notify or obtain approval from LLS.

In research undertaken for this Review, survey respondents indicated that the most common types of Allowable Activities carried out in the past five years included:

- clearing land to prevent personal injury or property damage, inc. firebreaks (42%)
- clearing for environmental protection works (39%).⁶⁴

This is confirmed in the 2021 annual landcover change report which identified that around 7% of unallocated clearing detected on rural regulated land was associated with farm infrastructure (e.g., clearing for fences, dams or sheds) as part of the new ‘presumed Allowable Activity’ category.⁶⁵

Allowable Activities must comply with measures to reduce environmental risk. For example, native vegetation clearing must be only to the ‘minimum extent necessary’. There are also maximum clearing distances for rural infrastructure, which vary in the Western, Central and Coastal zones of NSW to reflect regional differences in geography, vegetation and property size. Where maximum clearing distances of rural infrastructure overlap, combining these clearing distances for a cumulative total is not permitted.⁶⁶

Public monitoring and reporting on Allowable Activities is difficult because there is no notification, certification or reporting requirements for these types of native vegetation management – thereby contributing to the extent of unallocated clearing.⁶⁷

A range of stakeholder submissions identified the extent of Allowable Activities as an important piece of missing data that can contribute to unallocated clearing. However, given that Allowable Activities are designed to provide flexibility for landholders to undertake routine management of their land, it is important that no additional administrative burdens are placed on landholders where environmental risks are low. It was also suggested that landholder notification requirements were not currently feasible due to limited reporting skills of landholders and the potential for any new reporting requirements to undermine improved relationships with landholders.

Consultations with local government also drew attention to examples of potential misuse of Allowable Activities for non-agricultural activities around peri-urban and urban locations.

The Review recommends that further work is required to develop a method that estimates clearing under Allowable Activities and its contribution to unallocated clearing, through better identification of satellite imagery and ground-truthing as part of the Monitoring Evaluation and Reporting

⁶³ See: <https://www.lls.nsw.gov.au/help-and-advice/land-management-in-nsw/archive/allowable-activities-for-landholders>

⁶⁴ Out of total of 2,400 respondents who had applied to clear land under the Land Management (Native Vegetation) Code. Taverner Research (2023) Landholder Survey 2023. Report to Local Land Services, July.

⁶⁵ Department of Planning and Environment (2023) 2021 NSW Vegetation clearing report. Available online: <https://www.environment.nsw.gov.au/topics/animals-and-plants/native-vegetation/landcover-science/2021-nsw-vegetation-clearing-report>

⁶⁶ See: https://www.lls.nsw.gov.au/_data/assets/pdf_file/0008/734507/Allowable-activities-for-landholders_updated-15.2.2021.pdf

⁶⁷ See: ‘Allowable Activities for landholders’, Local Land Services website <https://www.lls.nsw.gov.au/help-and-advice/land-management-in-nsw/archive/allowable-activities-for-landholders>

Framework (see Recommendation 5.1). The Review also identified a need for consultation with local government to address the risk of potential misuse of Allowable Activities for non-agricultural activities in areas that are near peri-urban or urban areas (see Recommendation 5.3).

4. Expand support and incentives for landholders

Regulation is one type of intervention to enhance native vegetation management. Effective regulation requires collaboration and communication with stakeholders and should be supported by extension and education programs to promote voluntary compliance. In the context of native vegetation, the cooperation of landholders is crucial for regulation, and regular engagement and extension is needed to improve the outcomes of regulation and reduce the costs of enforcement.

While the Review focused largely on the objective and provisions of the Act, stakeholder feedback consistently raised the importance of key enablers that could help to achieve outcomes under the Land Management Framework:

- further education and extension services
- incentives to retain native vegetation
- increasing the uses and tools of the Native Vegetation Panel
- better supporting connections to Country through Aboriginal land management practices.

4.1 Continuing to strengthen education and extension for landholders

Key finding	Recommendation
Submissions from key stakeholder groups and the landholder survey indicate that LLS is highly valued for its role in providing education and extension services to support the Land Management Framework.	<p>4.1 Continue to strengthen education and extension for landholders to support the Land Management Framework, including:</p> <p>a) helping landholders to understand the Native Vegetation Regulatory Map categories and relevant rules on their property (see Recommendation 3.2)</p> <p>b) strengthening communication, extension and compliance activities on the use of Allowable Activities to ensure they are used for ‘routine’ practices and ‘to the minimum extent necessary’.</p>

To inform this Review, a total of 2,400 rural regulated landholders were surveyed about their engagement with the Land Management Framework⁶⁸. The majority (83%) of those who made an application to clear land under the Land Management (Native Vegetation) Code⁶⁹ were satisfied with the information and support from LLS during the application process.

However, the legislation was widely viewed as being complicated and confusing. Within this context, the support and advice from LLS staff was recognised as being important for understanding and complying with the Act and its provisions, with this sentiment supported by various stakeholder submissions.

The majority of landholders surveyed (73%) seek out information to better understand and manage native vegetation, with over one-third (37%) relying on LLS or other experts to identify and provide this advice.⁷⁰

⁶⁸ Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁶⁹ From a total of 52 survey respondents who had indicated they had applied to clear native vegetation under the Land Management (Native Vegetation) Code. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁷⁰ From a total of 2,400 survey respondents. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

Those surveyed as part of this Review also considered LLS support as leading to the most effective actions to promote the conservation of native vegetation, particularly:

- more support from LLS to landholders to better understand and implement native vegetation management practices (75%)
- more support from LLS to understand and implement sustainable or regenerative farming practices (74%)⁷¹.

These strategies were prioritised over increasing fines and public reporting of unlawful clearing as the most effective ways to protect native vegetation.

A range of landholders indicated that despite challenges with the complexity of the legislation, there has been increased positive engagement and relationships with LLS since the reforms were introduced. However, under-resourcing was identified by landholders as a key contributor to lengthy delays in the approval process, which were a source of frustration.

Landholders also indicated specific areas in which education and extension advice could be used to strengthen outcomes, particularly for Allowable Activities. These included better communicating the nature of 'routine' land management practices that are 'Allowable' and more clearly communicating provisions such as 'to the minimum extent necessary', as these are open to interpretation and create uncertainty.

The Review recommends continuing to improve education and extension for landholders to support the Land Management Framework, including LLS helping landholders understand the Native Vegetation Regulatory Map categories and relevant rules on their property.

In addition, LLS need to provide better guidance to landholders to ensure they are aware that Allowable Activities are to be used for 'routine practice' and to the 'minimum extent necessary'. Compliance and enforcement activities should also focus on this issue, particularly in those areas that are near peri-urban or urban areas (see Recommendation 5.3).

4.2 Complementing good regulation with incentives to retain native vegetation

Key finding	Recommendation
<p>Natural capital markets are developing and landholders strongly support incentives as a way of increasing protection of native vegetation and ensuring payment for their efforts.</p> <p>The NSW Government has now made significant investments in the NSW Landcare Program to support more on-ground activities in sustainable agriculture and improving native vegetation management on private lands.</p>	<p>4.2 Expand delivery of incentives to landholders to retain and enhance native vegetation through a nature positive approach with increased access to environmental markets, including through natural capital funding, development of on-farm and regional natural capital accounts, and a whole-farm planning landscape stewardship initiative.</p>

Prescriptive regulations like Part 5A and Schedule 5A and Schedule 5B of the Act, do not always provide opportunities for flexibility and innovation to meet ongoing public expectations and to improve the condition of the environment. Being responsive in native vegetation regulation can involve using market-based approaches and financial incentives, which are generally seen as

⁷¹ From a total of 1,763 survey respondents. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

effective tools for incentivising and supporting compliance.⁷² Market-based approaches to conservation secure public environmental benefits through incentive payments to private landowners to deliver conservation outcomes that are unlikely to be achieved through regulation alone.⁷³

There is growing recognition of the contribution that market-based approaches can make in Australia, as the international biodiversity conservation agenda progressively moves to incorporating formal protected areas and long-term conservation on multiple-use private land at landscape-scales. The European Union, United Kingdom, United States and Australia are increasingly focused on measuring and reporting on natural capital and leveraging new market mechanisms to drive environmental outcomes,⁷⁴ with the European Union and United Kingdom having set requirements for their agriculture and forestry supply chains to reduce environmental impacts.

Comprehensive landscape-level planning brings together sound farm planning and biodiversity management, rather than fragmented species-by-species or farm-by-farm conservation projects. Such comprehensive plans identify and account for the full range of biological features, how they are currently distributed and connected, what their minimum viability needs are to persist in the long term, and how those values could be integrated into productive farm management.

In Australia, the Commonwealth Government has set out its 'nature positive' approach,⁷⁵ including the use of markets for rehabilitation of private lands and accompanying vegetation. This shift presents new markets and opportunities for sustainable resource management and conservation of native vegetation in NSW. Importantly, achieving enhanced environmental stewardship of Australian farms will become increasingly important to ensure market access to our major export markets.

To complement an effective regulatory system, like Part 5A of the Act, it is important the Government incentivise landholders to retain and enhance native vegetation through expanding access to existing and emerging environmental markets. This will require an agency who works closely with regional communities to support farmers and land managers integrate opportunities presented by environmental markets into production systems. Making it easier for farmers to take up these incentives will lead to stronger economic, social and environmental outcomes for regional and rural NSW.

The incentives-based approach is strongly supported by landholders consulted for this Review. Many of those surveyed felt that the most effective ways for the NSW Government to promote the conservation of native vegetation would be as follows (based on the percentage who thought it would be 'very' or 'moderately' effective):

- more government grants to protect and manage native vegetation (76%)
- more opportunities to generate income from environmental markets such as carbon and biodiversity (68%)⁷⁶.

To support landholders' access to incentives for managing native vegetation, it is recommended that LLS embed environmental market 'concierge services' within its core services. These concierge services will support landholders to understand their opportunities for additional revenue streams from native vegetation on their property and support them to navigate opportunities for external investment in their natural capital. Access to natural capital markets will allow private land managers the flexibility to diversify their investment and revenue opportunities from a broader range of land management options, and through responding to incentives in a manner that is

⁷² Australian Government, *National Framework for the Management and Monitoring of Australia's Native Vegetation*, 2001, cited in NSW Parliamentary Library Research Service, *Native Vegetation: Recent Developments*, Briefing Paper No 1/03, pp. 23.

⁷³ Productivity Commission, *Regulation of Australian Agriculture*, Inquiry Report No. 79, November 2016, pp. 146-152.

⁷⁴ EU, *Biodiversity Strategy for 2030*, 2020 (accessed 3 July 2023); UK Office of National Statistics, *UK natural capital accounts: 2022*, 10 December 2022; US Department of Commerce, *National Strategy to Develop Statistics for Environmental-Economic Decisions*, January 2023; Commonwealth Government, Department of Climate Change, Energy, the Environment and Water, *Environmental Economic Accounting: A common national approach – Strategy and Action Plan*, April 2018.

⁷⁵ Australian Government, *Nature Positive Plan*, December 2022.

⁷⁶ From a total of 1,763 survey respondents. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

compatible with their business structures. LLS will draw on its existing relationships and work with a range of non-government organisations and government partners to deliver these additional on-ground services.

LLS' ongoing partnership with Landcare will enable opportunities for investment in native vegetation management on private lands, supported by the recent \$59 million funding commitment for the NSW Landcare Program from the Government. Landcare and LLS were the two most common sources of useful information on native vegetation management, as indicated by landholders surveyed for this Review.⁷⁷

Integral to the concierge services will be whole-farm-planning advice so landholders can better plan their property to maximise the revenue streams available from production opportunities and environmental markets. The concierge services will be supported by the development of on-farm natural capital accounts to measure and demonstrate the environmental outcomes achieved through more strategic use of native vegetation on rural land.

4.3 Expanding the range of options available to the Native Vegetation Panel

Key finding	Recommendation
The Native Vegetation Panel is not being used to its full potential, with only one application received over five years. The key barrier to its use is the high credit and assessment costs associated with using the Biodiversity Offsets Scheme.	4.3 Improve processes and guidance available to the Native Vegetation Panel to support landholders in avoiding and mitigating the impacts of clearing prior to using biodiversity offsets (e.g., set-asides, replanting) – this should include linkages with Natural Resource Management plans in LLS regions.

The Review found that there are key barriers that impact the ability of the Native Vegetation Panel to provide an alternate pathway for authorisations outside of the Code⁷⁸, including:

- credit and assessment costs associated with using the Biodiversity Offsets Scheme
- the comparative increase in cost for landholders associated with the Native Vegetation Panel pathway versus the Code for similar agricultural development scenarios
- limited landholder awareness and understanding of the Native Vegetation Panel pathway.

Research undertaken for this Review indicates that only a small portion of high-return agricultural scenarios are economically viable when using the Biodiversity Offsets Scheme, primarily certain horticultural scenarios with high economic returns and modest environmental impact footprints.⁷⁹ Of the 13 agricultural development scenarios analysed, costs associated with the Biodiversity Offsets Scheme credits average 70% of total development costs and the assessment averages 24% of total development costs.⁸⁰

The evidence from consultation undertaken for this Review also indicates that:

- public submissions across all stakeholder groups suggested that the Native Vegetation Panel could be reviewed to improve its functions and use – with some indicating that its lack of use to date was evidence it was not working as intended. Suggestions included making the assessment and offset options more wide-ranging to balance the opportunity for productive development with environmental risk

⁷⁷ LLS was the most common source of information on native vegetation management (33%) followed by Landcare (32%) (from a total of 2,400 survey respondents). Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁷⁸ The operation of the Native Vegetation Panel is described in Part 5A, 'Division 6 Approval for clearing native vegetation not otherwise authorised' of the LLS Act.

⁷⁹ *Native Vegetation Economics Financial Modelling and Analysis of Obtaining Native Vegetation Clearing Approval Under Division 6 of Part 5a of The Local Land Services Act*. Report prepared by Arche for Local Land Services, February 2023.

⁸⁰ The average BOS credit ranges from ~\$14,000/Ha to ~\$68,000/Ha.

- consultation with key stakeholders and LLS staff indicated the Native Vegetation Panel was supported as a pathway although it was not working as intended – with common suggestions that the function could be improved through including options for offsetting impacts outside the Biodiversity Offsets Scheme and a process that better draws on the Panel’s expertise
- a total of 80% of rural zoned landholders surveyed were not aware of the Native Vegetation Panel and a further 9% were unsure.⁸¹

The Review recommends improving the processes and guidance available to the Native Vegetation Panel to support landholders to avoid and mitigate impacts of clearing prior to using biodiversity offsets. Currently, the application process encourages landholders to attend a pre-lodgement meeting with LLS, supported by application guidelines which focus on identifying environmental, social and economic impacts of the proposal. The Native Vegetation Panel’s assessment functions occur once the landholder has submitted a formal Biodiversity Development Assessment Report, with limited opportunities for the landholder and Panel to consider other measures prior to offsetting impacts.

Avoid and mitigate measures, like revegetation and native vegetation planting, should be considered prior to the landholder needing to undertake a Biodiversity Development Assessment Report. This may include an expanded function for LLS, or Accredited Assessors, to prepare a preliminary overview of the proposed clearing application that the Native Vegetation Panel can use to identify opportunities to avoid or mitigate biodiversity impacts at a site and landscape scale, such as retaining or planting vegetation to maintain key landscape connectivity corridors.

In addition to minimising impacts on biodiversity, a strengthened ‘avoid and mitigate’ approach would enable landholders to be supported through more appropriate and cost-effective risk thresholds for agricultural development prior to being required to offset via biodiversity credits. Additional benefits include better application of the Native Vegetation Panel’s expertise in delivering outcomes at a landscape level and within the context of broader natural resource management strategies.

The consideration of impacts could be informed by risks and opportunities identified in LLS’ existing regional Natural Resource Management 5-year Plans and determined by the Native Vegetation Panel’s professional expertise. For example, where possible, avoiding further impacts on identified climate change mitigation corridors, or mitigation actions to strengthen and protect these areas. Other examples may include considering off-site impacts of the proposed clearing on important environmental assets such as wetlands, conservation reserves and drinking water catchments.

4.4 Engaging with Aboriginal stakeholders and communities to support Aboriginal cultural heritage, practices and connections to Country

Key finding	Recommendation
Aboriginal cultural heritage and practices are not adequately incorporated in the current Land Management Framework. This does not correspond with the Government’s commitments to supporting connections to Country under the national Closing the Gap Agreement.	4.4 LLS engage with Aboriginal stakeholders and communities to support Aboriginal cultural heritage, practices and connections to Country throughout the provisions and implementation of the Land Management Framework.

⁸¹ Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

While the Review focused mainly on the objective and provisions of the Act, a risk assessment was also undertaken to identify gaps and future risks. Aboriginal land management and cultural heritage were identified as key gaps in the existing Land Management Framework. The national Closing the Gap agreement, to which the NSW Government is co-signatory, prioritises the maintenance of Aboriginal people's distinctive relationship with their land and waters, noting the significant cultural, spiritual, physical and economic outcomes of connections to Country.⁸²

Issues relating to Aboriginal land management were also raised in a small number of stakeholder consultation sessions, public submissions and landholder surveys:

- The survey indicated that over half (56%) of landholders (N=2,400) felt that native vegetation was important for conserving Aboriginal cultural values.⁸³
- A small number of survey respondents also indicated that it would be useful to have more information available for landholders on Aboriginal values on private land. This was supported in some environmental NGO submissions which indicated that it would be useful for the Native Vegetation Regulatory Map to include areas of high Aboriginal cultural value. The Review sees merit in exploring this suggestion further.
- Some submissions from stakeholder groups and stakeholder consultation raised the need for options and incentives to support regenerative agricultural practices including Aboriginal land management practices and cultural burning.
- Another key issue identified is that Schedule 5A authorises “clearing native vegetation for a traditional Aboriginal cultural activity (other than a commercial cultural activity)”⁸⁴ – the clause excludes commercial activity which can be limiting in cases where Aboriginal land managers should be provided with a fee-for-service contract to engage in cultural burning or similar land management practices.
- Further information and education are needed for landholders on Aboriginal cultural heritage legislation and due diligence requirements on private land, noting that they risk breaching Aboriginal Cultural Heritage protection provisions in the *National Parks and Wildlife Act 1974* without better information and support.

While specific issues have been identified through the Review, consultation with key Aboriginal stakeholders emphasised the importance of better understanding these native vegetation management issues at a local level, through engaging local Aboriginal communities, particularly in regions where the community has been disengaged to date.

The Review recommends a culturally sensitive, landscape-scale approach to Aboriginal land management activities to support connections to Country. This must be informed by genuine engagement with Aboriginal stakeholders and communities to identify the most effective ways to strengthen Aboriginal cultural heritage and practices throughout the provisions and implementation of the Act. This engagement should be supported by consultation with the relevant government agencies, such as Aboriginal Affairs, NSW LALC and Crown Lands.

5. Enhance transparency and awareness of the Land Management Framework

The Review has highlighted a lack of transparency of the outcomes of the Land Management Framework as well as a lack of awareness around its components and desired outcomes. Improved reporting and engagement are needed so that the NSW public have a better understanding of how rural regulated land is being managed, and to what extent the objectives are being achieved under

⁸² Commonwealth Government (2020) *National Closing the Gap Agreement*, Target 15. Available online: <https://www.closingthegap.gov.au/national-agreement/targets>

⁸³ Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

⁸⁴ Schedule 5A, Part 2, Clause 18.

the Land Management Framework, and more broadly as part of the Land Management and Biodiversity Conservation Reforms.

5.1 Establishing a holistic, outcomes-focussed Monitoring, Evaluation and Reporting Framework

Key finding	Recommendation
Stakeholder confidence in the Land Management Framework is being impacted by a lack of transparent and consistent monitoring, evaluation and reporting, including limited details on compliance and enforcement actions.	<p>5.1 Increase public transparency and reporting of the Land Management Framework by:</p> <p>a) Appointing the Natural Resources Commission to oversee the establishment of a LLS developed Land Management Monitoring, Evaluation and Reporting Framework that includes regular and ongoing reporting on the outcomes of the Land Management Framework</p> <p>b) Department of Planning and Environment to report on a range of compliance and enforcement actions (including penalties, warning letters, response to Enviroline inquiries).</p>

It is widely recognised that good regulation should be based on sound evidence that is continually improved and transparent. According to NSW Treasury, these practices are necessary for effective regulation⁸⁵, while the Productivity Commission recognises their importance specifically in the context of land management regulation.⁸⁶

Previous reviews, and many stakeholder submissions received for this Review, called for increased transparency of the outcomes of the Land Management and Biodiversity Conservation Reforms as a whole. Suggestions from public submissions included:

- publishing more detailed information on compliance and enforcement activities and the location and type of clearing and any breaches
- enhancing the Public Information Register
- defining roles and responsibilities including clear pathways for the public to report potential incidents of unauthorised clearing
- clarifying the factors considered in regulatory decisions, such as the methods used to assess values of land in the Biodiversity Offsets Scheme.

Many of these suggestions can be implemented without changes to the legislative framework but require improved processes for accessible public reporting.

The landholder survey also indicated very low awareness of any monitoring and reporting of the Land Management Framework:

- Thirty percent (30%) were aware that LLS does report but did not know what it reports on.
- Sixty-two percent (62%) were not aware of any reporting.⁸⁷

To ensure the Part 5A provisions continue to achieve the good management practices of evidence-based regulation, continuous improvement and transparency, the provisions should be supported by appropriate data collection and management processes, monitoring, evaluation and public reporting tools and frameworks, and review mechanisms.

The recommended Monitoring, Evaluation and Reporting Framework will report on multiple indicators from Part 5A of the Act, including a focus on:

⁸⁵ NSW Treasury, *NSW Government Guide to Better Regulation*, January 2019.

⁸⁶ Productivity Commission, *Regulation of Australian Agriculture*, Inquiry Report No. 79, November 2016, p. 88-89.

⁸⁷ From a total of 1,763 of the survey respondents who answered this question. Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

- landscape-scale outcomes of the native vegetation provisions
- measuring and reporting on the use of Allowable Activities
- measuring and reporting on socioeconomic indicators and landholder experiences
- audits of authorisations and set asides.

The Department of Planning and Environment will also report on a range of compliance and enforcement actions (including penalties, warning letters, response to Enviroline inquiries), and relevant indicators from the broader Land Management and Biodiversity Conservation Reforms, such as Private Land Conservation Agreements.

The Monitoring, Evaluation and Reporting Framework will be developed by LLS with oversight from the Natural Resources Commission.

The Natural Resources Commission is the independent body that deals with natural resources issues (like native vegetation) in the state. In addition, the proposed MER Framework includes auditing of authorisations and set asides and the Natural Resources Commission has an audit role under the LLS Act.

5.2 Reporting annually on woody vegetation net change on rural regulated land

Key finding	Recommendation
The intended balance between native vegetation loss and gain built into the Land Management Framework is not well reported. This balance is being achieved with the combined area of set asides and in-perpetuity private land conservation agreements.	5.2 Establish a monitoring and annual reporting process for woody vegetation loss and regrowth/revegetation (net change) on rural regulated land, with oversight by an independent body or expert panel (see Recommendation 3.1b) and in consultation with LLS and the Department of Planning and Environment.

The Department of Planning and Environment publishes an annual landcover change report and a report on woody and non-woody vegetation change on rural regulated land. Both reports use satellite imagery to calculate vegetation loss. The annual landcover change report only describes vegetation loss and does not report on regrowth, revegetation or replanting.

As described in Section 2.2, the balance of vegetation loss and gain under the Land Management and Biodiversity Conservation Reforms is being achieved with the combined area of set asides and private land conservation agreements exceeding the area of native vegetation being cleared.

In addition, the Natural Resources Commission found that overall forest cover on private land in NSW had increased by around 1 million hectares (or 14%) between 1998 and 2020.⁸⁸ This was supported by a recent report on Australia’s environment produced by the Australian National University which found that in 2022, NSW tree cover increased 10% or 1.4 million hectares from 2021 and is now 35% above the 2000-2021 average extent.⁸⁹

The Review concludes that the absence of annual reporting on vegetation gain, as part of net landcover change, does not provide the NSW public with a full picture of the status of native vegetation, or the conservation efforts of landholders and other stakeholders, leading to perceptions of continuous and compounding native vegetation loss.

⁸⁸ Natural Resources Commission (2021) NSW Forest Monitoring and Improvement Program “Delivering the evidence we need, for the forests we want”. Annual progress report, April.

⁸⁹ Australian National University (ANU) and Terrestrial Ecosystem Research Network (TERN) (2022) Australia’s Environment 2022 Report.

To improve transparency of the outcomes of the Land Management Framework and the overarching Land Management and Biodiversity Conservation Reforms, it is recommended that a process to identify and annually report on the balance of native vegetation loss and gain is developed with oversight by an independent body or expert panel (see Recommendation 3.1b), and in consultation with LLS and the Department of Planning and Environment.

5.3 Improving engagement with local government

Key finding	Recommendation
The Biodiversity Offsets Scheme inquiry and public submissions from local governments identify areas to strengthen engagement with councils to reduce risks of non-agricultural clearing in peri-urban areas.	5.3 LLS improve engagement with local government on the Land Management Framework to reduce the risk of misusing Allowable Activities for non-agricultural clearing (this risk will also be reduced by implementing Recommendation 4.1b).

The Review received a small number of submissions (N=3) from councils as well as a submission from Local Government NSW (see [Appendix B](#)), and there was subsequent consultation with these groups. Both the consultation and submissions from local government raised the potential issue of landholder clearing under Part 5A of the Act prior to lodging a Development Application for council approval, and in areas that have already been mapped for future urban and industrial use. This was further raised by councils in the Parliamentary Inquiry into the Biodiversity Offsets Scheme.⁹⁰

To minimise the potential misuse of Part 5A, LLS will work together with local government to improve engagement and information sharing. This will enable councils to conduct due diligence as part of their assessment of Development Applications and, where necessary, undertake retrospective assessments of already cleared vegetation.

LLS will also develop guidance material for landholders to improve understanding and application of Allowable Activities for ‘routine practices’ and to the ‘minimum extent necessary’ (see Recommendation 4.1). To complement this, compliance and enforcement activities should also focus on this issue, particularly in those areas that are near peri-urban or urban areas.

⁹⁰ New South Wales Parliament, Legislative Council. Portfolio Committee No. 7 - Integrity of the NSW Biodiversity Offsets Scheme. Report no. 16. November 2022. Available online: <https://www.parliament.nsw.gov.au/lcdocs/inquiries/2822/Report%20No.%2016%20-%20PC%207%20-%20Integrity%20of%20the%20NSW%20Biodiversity%20Offsets%20Scheme.pdf>

Appendix A: Land Management and Biodiversity Conservation Reforms

Figure 3: The Land Management and Biodiversity Conservation legislative reforms

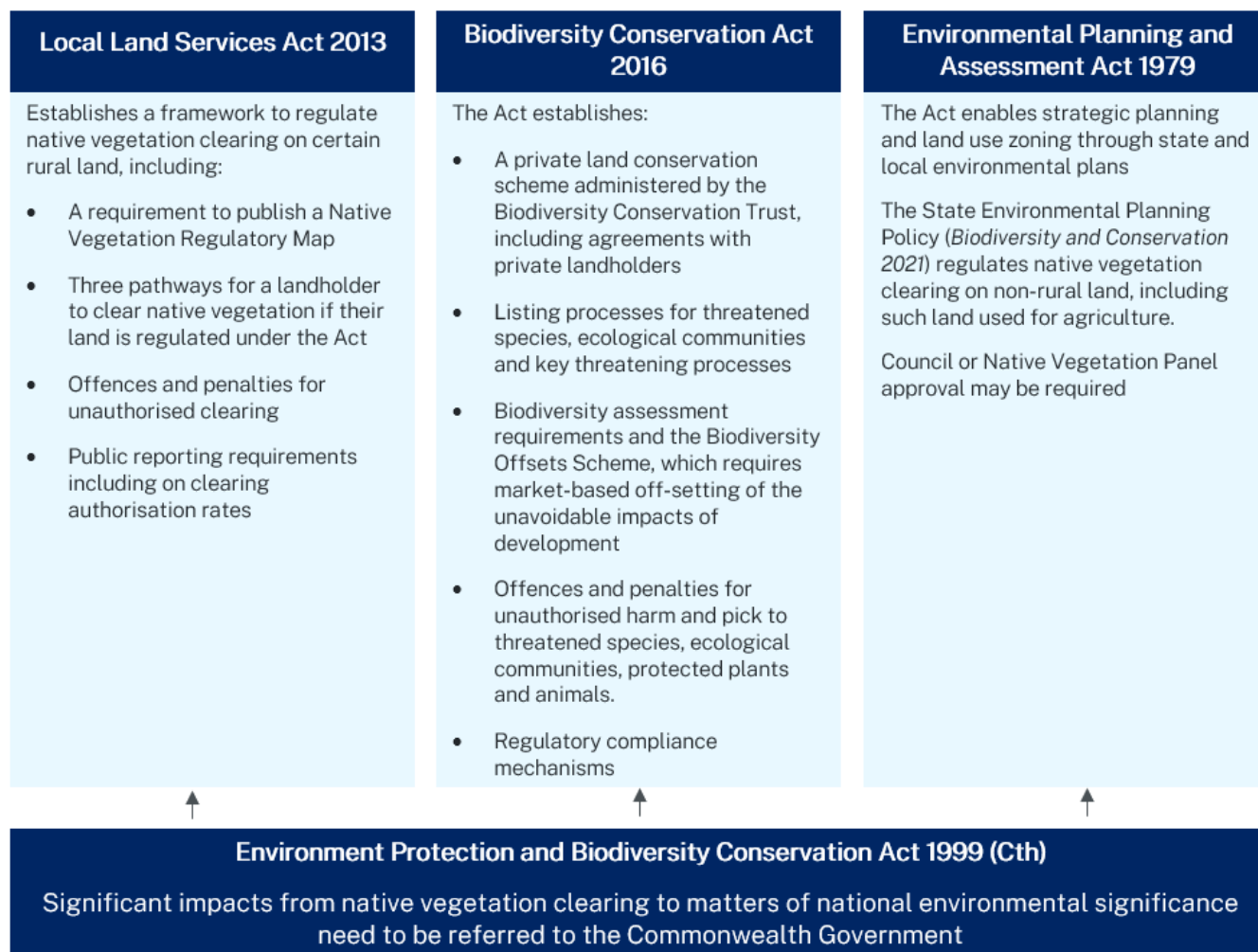


Table 1: Roles and responsibilities of NSW Government agencies

Agency	Responsibility
Local Land Services	<p>Administers the Land Management Framework, including by:</p> <ul style="list-style-type: none"> • Providing advice to landholders on what clearing activities are allowed and extension support services • Processing notifications to clear native vegetation under the Land Management (Native Vegetation) Code • Assessing proposals and providing approvals via the issuing of certificates to clear native vegetation under the Land Management (Native Vegetation) Code • Supporting the Native Vegetation Panel • Maintaining a Public Information Register of notifications made, certifications issued, and areas set aside
Department of Planning	<ul style="list-style-type: none"> • Prepares and publishes the Native Vegetation Regulatory Map

Agency	Responsibility
and Environment	<ul style="list-style-type: none"> • Carries out compliance and enforcement of Part 5A, which includes investigating alleged illegal clearing • Reports annually on levels of woody and non-woody vegetation loss state-wide and on rural land that is regulated under Part 5A of the Local Land Services Act 2013 • Administers the Biodiversity Conservation Investment Strategy
Biodiversity Conservation Trust	<ul style="list-style-type: none"> • Partners with landholders to establish voluntary private land conservation agreements on their land to enhance and conserve biodiversity across NSW

Appendix B: Consultation Process

Overview

Public consultation was undertaken to inform this Review including:

- Stakeholder consultation with 24 key stakeholder groups including industry and environmental groups, non-government organisations and local, State and Commonwealth government agencies (see further detail below)
- Public submissions (N=184) in response to a Discussion Paper (see further detail below)
- Landholder survey (N=2,400) across all 11 Local Land Services regions⁹¹.

Stakeholder consultation

The Independent Expert Advisory Panel and LLS met with 24 key stakeholder groups, including environmental and industry groups, non-government organisations, and local, State and Commonwealth government agencies, as part of 17 consultation sessions between November 2022 and February 2023 (see Table 2). Where necessary, organisations were consulted several times.

Key stakeholder organisations and partner agencies were contacted by email to provide notification of the public submission period, with links to the 'Have Your Say' portal, the Discussion Paper and other supporting documents.

Table 2: Stakeholder consultation sessions 2022-23

Stakeholders	Date(s) consulted
NSW Farmers	16/11/22, 30/11/22
Environmental Defenders Office	16/11/22, 29/11/22
LGNSW	30/11/22, 23/2/23 (combined consultation with councils)
Nature Conservation Council	29/11/22
WWF Australia	7/12/22
Wollondilly Shire Council	7/12/22, 23/2/23 (combined consultation with LGNSW)
Wingecarribee Shire Council	7/12/22
Australian Department Climate Change, Energy, the Environment and Water	13/12/22, 1/3/23
Native Vegetation Panel	17/1/23
Natural Resources Commission	18/1/23
NSW Aboriginal Affairs	19/1/23
National Parks Association of NSW; 4 Pines Brewing Co; Australian Marine Conservation Society; Clarence Environment Centre; Nature Coast Marine Group South Coast; Ocean Youth	20/1/22 (combined consultation)
Crown Lands	23/1/23
NSW Environment and Heritage	31/1/23
NSW Department of Planning and Environment	8/2/23
Bathurst Regional Council	23/2/23 (combined consultation with LGNSW)

⁹¹ Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

Coffs Harbour City Council	23/2/23 (combined consultation with LGNSW)
Lake Macquarie City Council	23/2/23 (combined consultation with LGNSW)
Mid Coast Council	23/2/23 (combined consultation with LGNSW)

Public Submissions

LLS released a Discussion Paper outlining the purpose and scope of the Review and key focus questions to generate discussion of landholders' experience using the Land Management Framework.

This was supported by an online pro-forma submission template and instructions for making a written submission. The online proforma was available from 14 November 2022 for five weeks, however the submission period was extended to 11 weeks for written submissions. Submissions could be tendered online, via email or in hard copy.

A total of 184 valid submissions were received, including 100 online proforma submissions and 84 written submissions (see Table 3 and Table 4). No hard-copy submissions were received. Submissions were received from all LLS regions. All submissions are available on the [LLS website](#), unless there was a request not to publish the submission (see Table 5).

Table 3: Submissions received by LLS region

LLS region	Submissions (No.)
North Coast	41
Northern Tablelands	8
North West	5
Western	2
Central West	2
Central Tablelands	11
Hunter	16
Greater Sydney	19
South East	31
Riverina	4
Murray	5
Not known	27
Statewide (inc. interstate)	13

Table 4: Submissions received by stakeholder category

Stakeholder category*	Submissions (No.)
Industry NGOs	1
Environmental NGOs	32
Local government	4
Rural landholders	100
Environmental NGO members	10
Industry professionals	11
Other**	27

*Stakeholder categories were allocated by LLS where none was provided with written submissions, while pro-forma submission participants self-nominated their stakeholder category.

**Other category for analysis includes 'business', 'other', 'community member' or where no category was nominated by the respondent.

Table 5: List of all submissions received

Number	Submission type	Organisation/name
1	Online submission	Anonymous
2	Online submission	Anonymous
3	Online submission	Anonymous
4	Online submission	Anonymous
5	Online submission	Stephen Woodley
6	Online submission	Anonymous
7	Online submission	Anonymous
8	Invalid submission	Name not provided
9	Online submission	John Gartland
10	Online submission	Sheridan Zuev
11	Online submission	Anonymous
12	Online submission	Syd Welling

13	Online submission	Anonymous
14	Online submission	Philip Willis
15	Online submission	Anonymous
16	Online submission	Anonymous
17	Online submission	Alan Devine
18	Online submission	Anonymous
19	Online submission	Anonymous
20	Online submission	Anonymous
21	Online submission	Anonymous
22	Online submission	Anonymous
23	Online submission	Anonymous
24	Online submission	Anonymous
25	Online submission	Anonymous
26	Online submission	Anonymous
27	Online submission	Anonymous
28	Online submission	Howard Mackinder
29	Online submission	Anonymous
30	Online submission	Anonymous
31	Online submission	Anonymous
32	Online submission	Anonymous
33	Online submission	Anonymous
34	Online submission	Anonymous
35	Online submission	Russell Gueho
36	Online submission	Margaret McDonald
37	Online submission	Anonymous
38	Online submission	Christie Gabriel
39	Online submission	Anonymous
40	Online submission	Anonymous
41	Online submission	Anonymous
42	Online submission	Anonymous
43	Online submission	Anonymous
44	Online submission	Anonymous
45	Online submission	Anonymous
46	Online submission	Ashley Cox
47	Online submission	Anonymous
48	Online submission	Leanne Caban
49	Online submission	Anonymous
50	Online submission	Anonymous
51	Online submission	Anonymous
52	Online submission	Anonymous
53	Online submission	Michael Grass
54	Online submission	Michael Elfick
55	Online submission	Anonymous
56	Online submission	Anonymous
57	Online submission	Anonymous
58	Online submission	Anonymous
59	Online submission	Anonymous
60	Online submission	Anonymous
61	Online submission	Adam Wettenhall
62	Online submission	Anonymous
63	Online submission	Anonymous

64	Online submission	Anonymous
65	Online submission	Anonymous
66	Online submission	Anonymous
67	Online submission	Kevin Rattigan
68	Online submission	Stephen Cullen
69	Online submission	Anonymous
70	Online submission	Anonymous
71	Online submission	Anonymous
72	Online submission	Scott Jennar
73	Online submission	Anonymous
74	Online submission	Anonymous
75	Online submission	Ruth Irvine
76	Written submission	Anonymous
77	Online submission	Anonymous
78	Online submission	Anonymous
79	Written submission	Anonymous
80	Online submission	Eva Johnstone
81	Online submission	Graham Hope
82	Online submission	Lyndal Breen
83	Online submission	Anonymous
84	Online submission	Anonymous
85	Online submission	Anonymous
86	Online submission	Anonymous
87	Online submission	Peter Maslen
88	Online submission	Anonymous
89	Online submission	Chris Hoare
90	Online submission	David de Frederick
91	Written submission	Anonymous
92	Online submission	Anonymous
93	Online submission	Anonymous
94	Online submission	Anonymous
95	Online submission	Anonymous
96	Online submission	Stephen Fittler
97	Online submission	Anonymous
98	Online submission	Anonymous
99	Withdrawn	NA
100	Written submission	Lake Macquarie City Council
101	Online submission	Anonymous
102	Online submission	Darren Smith
103	Online submission	Anonymous
104	Written submission	Helen Hughes
105	Written submission	Chris Nadolny
106	Written submission	Land & Environment Planning
107	Online submission	Lauren Van Dyke
108	Online submission	Anonymous
109	Written submission	Anonymous
110	Written submission	Friends of Grasslands
111	Written submission	Anonymous
112	Written submission	Anonymous
113	Written submission	Sam Pascall
114	Written submission	North Coast Environment Council

115	Written submission	Bathurst Regional Council
116	Written submission	Caldera Environment Centre
117	Written submission – request to not publish	Anonymous
118	Written submission	Anonymous
119	Written submission	Friends of the Koala
120	Written submission	Anonymous
121	Written submission	National Parks Association of NSW - Armidale
122	Online submission	Anonymous
123	Written submission	Environmental Defenders Office
124	Written submission	WIRES
125	Written submission	Catherine Weaver
126	Written submission	Kate van Barneveld
127	Written submission	Lorraine Jones
128	Written submission	Lois Katz
129	Written submission	National Parks Association of NSW - Tamworth Namoi Branch
130	Written submission	Wingecarribee Zero Emissions (WinZero Inc)
131	Written submission	4 Pines Brewing Company
132	Written submission	NSW Farmers
133	Written submission	Kate Consterdine
134	Written submission	Steve Debus
135	Written submission	Michael Plit
136	Written submission	Mulgoa Valley Landcare Group
137	Written submission	Donna Della-Ca
138	Written submission	Emma Gentle
139	Written submission	Anna Bloemhard
140	Written submission	Wollondilly Shire Council
141	Written submission	Nature Conservation Council
142	Written submission	Diana Kureen
143	Written submission	Hastings Birdwatchers
144	Written submission	Australian Land Conservation Alliance
145	Written submission	John Benson
146	Written submission	Gillian Abbott
147	Written submission	Australian Conservation Foundation - Northern Beaches
148	Written submission	Beryn Jewson
149	Written submission	Kyogle residents
150	Written submission	Potoroo Palace
151	Written submission	Mike Farrell
152	Written submission	Ross Jeffree
153	Written submission	LGNSW
154	Written submission	STEP Inc
155	Written submission	Friends of Fernhill and Mulgoa Valley
156	Written submission	Lyndal Breen
157	Written submission	Mary Forbes
158	Written submission	National Parks Association of NSW - Far South Coast
159	Written submission	Jane McIntyre
160	Written submission	Janine Cairns
161	Written submission	Ambleside Pastoral Company
162	Written submission	Lions Club of Clarence Environmental
163	Written submission	Georgette Allen
164	Written submission	Nambucca Valley Conservation Association

165	Written submission	Tom Ferrier
166	Written submission	Anonymous
167	Written submission	Anonymous
168	Written submission	Clarence Environmental Centre
169	Written submission	Australian Network for Plant Conservation
170	Written submission	Tamworth Birdwatchers
171	Written submission	Malcolm Fisher
172	Written submission	Birdlife Australia
173	Written submission	Greening Australia
174	Written submission	National Parks Association of NSW
175	Written submission	Orange Field Naturalist and Conservation Society
176	Written submission	National Parks Association - Coffs
177	Written submission	Jonathon Howard
178	Written submission	Martine Porret
179	Written submission	Rebecca Andersen
180	Written submission	Australian Marine Conservation Society Alliance
181	Written submission	Janice Haviland
182	Written submission	Sandra Frazer
183	Written submission	Penny McMullin
184	Written submission	Forest Ecology Alliance
185	Written submission	WWF Australia

Landholder Survey

A total of 2,400 surveys were submitted via a mixed-mode survey design undertaken by Taverner Research according to ISO 20252 Standards.⁹² A CATI (Computer-Assisted Telephone Interview) survey was conducted between 3 April and 4 May 2023, and Online surveys ran in parallel, up to 8 May 2023 (see Table 6).

To qualify for the Survey, participants needed to be aged 18 years or over, own or manage rural zoned land in one of 11 LLS regions in NSW and be one of the main decision makers on a property in a rural or peri-urban setting (see Table 7).

Table 6 Survey participants by methodology

Methodology	Participants
CATI survey	n=750 (n=113 also completed an 'extra' online survey)
'Combined' online survey	n=1650
Total sample size	N=2400

Table 7 Survey participants by LLS region

LLS Region	% of total	Total
South East	21%	497
North Coast	19%	467
Hunter	9%	228
Central Tablelands	9%	213
Northern Tablelands	9%	211
Riverina	7%	170
Greater Sydney	7%	159
Central West	7%	157

⁹² Taverner Research (2023) *Landholder Survey 2023*. Report to Local Land Services, July.

North West	6%	134
Western	4%	87
Murray	3%	77

The survey sample comprised:

- Around three-quarters of landholders (73%) owned or managed only one rural property and had done so for more than 10 years (67%), and 75% both owned and managed their property.
- Most landholders (58%) held property of more than 50 hectares.
- The vast majority (66%) were in cattle, sheep or livestock production, and 31% used their property for lifestyle or hobby farming.

The purpose of the research was to understand landholders' views on native vegetation, their management activities, their contact with LLS, and their awareness of the Native Vegetation Regulatory Map and the Land Management (Native Vegetation) Code.