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Leading Harvest Australia Farmland Management Standard —Pasture and Livestock Est. 2023 Guidebook

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SECTION 1

INTRODUCTION

Introduction

The Leading Harvest Australia Farmland Management Standard – Pasture and Livestock Est. 2023 (LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023) Guidebook is intended to help *Standard Users* and *Certification Bodies* understand, interpret, and implement the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. It does not replace any portion of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 and is for guidance purposes only to support the use of LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 by *Standard Users*. It explains why the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 was created and then provides detailed information for implementing the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. The guidebook also provides additional information that may help *Standard Users* make management decisions to meet LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Indicators and systematically identify gaps in their management system that might lead to non-conformance with the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. It is not a list of tasks, another management system, or an official interpretation of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. It may be used by *Standard Users* to help them improve their existing system of management.

[1] All terms in italics are defined in the glossary.

SECTION 2

BACKGROUND

Background

What is Driving the Demand for Farmland Sustainability Assurance?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 was created from the Leading Harvest Australia Farmland Management Standard 2023, which originated from the Leading Harvest U.S. Standard, in response to the overlapping demands of key stakeholders such as *supply chain* companies, retailers, farmland investors, and consumers.

Stakeholder interest in sustainable agriculture is growing rapidly with increasing attention to how agricultural systems affect and interact with the environment and society.[1] Agriculture plays a global economic, social, and environmental role: it employs more than 1 billion people, produces more than $1.3 trillion of food each year, and occupies 50 per cent of the world's habitable land, impacting climate, *biodiversity*, and water supplies.[2] As a result, businesses in the agricultural sector are taking action:

Farm and agricultural businesses are increasingly applying sustainability strategies to advance resilience and efficiency, better retain talent, and reduce regulatory burdens[3] while addressing growing demands for assurance from *supply chain* companies.

Supply chain companies and retailers are responding to consumers' growing interest in sustainable, healthy food by increasingly sourcing products that provide the assurance of sustainability.

Investors and capital providers increasingly expect assurance that their capital will not only generate sustainable financial returns but also contribute to a more sustainable society.[4]

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 addresses these diverse needs for assurance by providing a framework to help family farmers and farm managers methodically tackle agricultural sustainability and make verifiable claims to the market while strengthening the credibility, reputation, and social licence of businesses and investors across the value chain.[5] Use of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 may help *Standard Users* address requirements of other agricultural sustainability *programs* such as the OECD-FAO Guidance for Responsible Agricultural Supply Chains[6] and UN Principles for Responsible Investment for Farmland.[7]

[1] Levin, J., and M. Stevenson. 2012. The 2050 criteria: Guide to responsible investment in agricultural, forest, and seafood commodities. Published by World Wildlife Fund, Washington, DC. Power, A. 2010. Ecosystem services and agriculture: tradeoffs and synergies. Phil. Trans. R. Soc. B 365: 2959-2971.

[2] World Bank. 2017. Agriculture and Food. World Bank, Washington, DC.

[3] Whelan, T. and C. Fink. 2016. The Comprehensive Business Case for Sustainability. Harvard Business Review, 21.

[4] Fink, L. A. 2020. Fundamental Reshaping of Finance. BlackRock, Inc.

[5] Moore, S., Cubbage, F., Eicheldinger, C. 2012. Impacts of Forest Stewardship Council (FSC) and Sustainable Forestry Initiative (SFI) Forest Certification in North America. Journal of Forestry 110(2): 79-88. Levin, J., and M. Stevenson. 2012. The 2050 criteria: Guide to responsible investment in agricultural, forest, and seafood commodities. WWF, Washington, DC; Molenaar, J. and J. Kessler. 2017. The business benefits of using sustainability standards: A meta-review. Commissioned by ISEAL Alliance. Aidenvironment, Amsterdam, The Netherlands.

[6] OECD/FAO. 2018. OECD-FAO Pilot project on the implementation of the OECD-FAO Guidance for Responsible Agricultural Supply Chains : Baseline Report, OECD Publishing, Paris. OECD/FAO. 2016. OECD-FAO Guidance for Responsible Agricultural Supply Chains, OECD Publishing, Paris.

[7] UNEP Finance Initiative and UN Global Compact. 2016. Responsible Investment In Farmland Report 2014-2015. UNEP Finance Initiative.

SECTION 2
BACKGROUND

Why a New Agricultural Sustainability Program?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 was created because a scalable, sector-wide response to the demand for sustainability assurance in agriculture did not exist. Although there are globally over 400 other farm sustainability standards, most are either: 1) limited in scope to specific livestock enterprises and regions, or 2) require specific practices that are not always adaptable to the broad diversity of agricultural systems in Australia.[8]

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 has been designed to be universally applied across all livestock enterprise types and regions of Australia and addresses the full spectrum of environmental, social, and economic concerns. It is outcomes-based, which allows *Standard Users*, family farmers, and farm managers to flexibly apply the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 to their particular operating context while still achieving widely desired, long-term sustainability outcomes. Independent, third-party auditing plays a key role by verifying and assuring that those outcomes are being met across a great diversity of farms.

How was LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Developed?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 was adapted from the LH Australia Farmland Management Standard 2023 (originally adapted from the Leading Harvest Farmland Management Standard 2020 drafted for the U.S.).

The Leading Harvest Australia Farmland Management Standard – Pasture and Livestock Est. 2023 has been revised by agricultural and environmental technical experts from Pinion Advisory, a leading Australian agricultural consultancy with expertise across sectors, regions, and technical areas. The revised document was then reviewed by Leading Harvest to ensure consistency with the U.S., as a U.S. pasture and livestock standard was developed concurrently. A pilot with leading agricultural businesses across a range of industries and regions was also conducted to ensure that the Standard requirements were relevant to, and meaningful for, an Australian livestock context.

The LH Australia Farmland Management Standard 2023 underwent a similar review and pilot process in 2022 to adapt the Standard from its U.S. origins and ensure that the Standard requirements were relevant to, and meaningful for, an Australian context.

The original Leading Harvest Farmland Management Standard 2020 for the U.S. was drafted by a team of farm managers, environmental organisations, asset managers, and agricultural sustainability experts and was modelled after widely adopted U.S. sustainable forestry certification standards. Other leading agricultural standards and *programs* were also consulted to prepare the draft Leading Harvest Farmland Management Standard 2020, including (but not limited to): FAO Sustainability Assessment of Food and Agricultural Systems Guidelines, GLOBALG.A.P., National Sustainable Agriculture Standard, LEO-4000, Rainforest Alliance Sustainable Agriculture Network, Round Table on Responsible Soy, Sustainable Agriculture Initiative Platform, Unilever Sustainable Agriculture Code, and UN Principles for Responsible Investment.

The draft Leading Harvest Farmland Management Standard 2020 was also field tested and reviewed by stakeholders, representing farmers, environmental groups, farm labour, agricultural scientists, rural communities, and agricultural services. Results of the field test and stakeholder feedback were used to revise the draft Leading Harvest Farmland Management Standard 2020 so that it would be scalable and practical, responsive to stakeholders' concerns and interests, and credible.

[8] International Trade Centre. 2017. Standard Map: Your roadmap to a sustainable future. Geneva, Switzerland.

SECTION 3

SCOPE OF THE LH AUSTRALIA FARMLAND MANAGEMENT STANDARD – PASTURE AND LIVESTOCK EST. 2023

SCOPE OF THE LH AUSTRALIA FARMLAND MANAGEMENT STANDARD – PASTURE AND LIVESTOCK EST. 2023

What is the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 is a third-party audited certification standard to provide assurance for the sustainability of *agricultural land* management. Agricultural business managers and owners can use the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 to certify *agricultural land* under their management to support verifiable sustainability claims to the market regarding their management.

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 is outcome-based using qualitative indicators that serve as farm management unit goals. It does not prescribe activities necessary to achieve conformance with the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 but allows farmers and farm managers the flexibility to apply practices best suited for their operation to achieve sustainable outcomes. This approach allows for adaptation across livestock enterprises and agricultural regions, recognising that even one livestock enterprise type can require unique management strategies in different regions. This approach is possible because it includes a credible system to ensure that desired outcomes are being met. Third-party auditing by independent and accredited *certification bodies* credibly assesses whether the practices applied are sufficient to conform to an outcome described by an indicator.

Finally, the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 requires farmers to continually improve their operations, year over year, following changes and updates in *agricultural best management practices*. The Standard itself is revised on a regular basis through a public process to ensure it reflects the latest insights regarding agricultural sustainability. Collectively, these processes will be part of the continuous improvement of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 and *agricultural land* management by *Standard Users*.

What Types of Land Does the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Address?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 applies to all farmland including all pasture systems, livestock types, and *crop* types in mixed farming systems, and regions of Australia. The Standard excludes purely cropping businesses (see the Leading Harvest Australia Farmland Management Standard Est. 2023). Farmland includes *cropland*, *rangeland*, grassland, pastureland, native vegetation, and *wetlands* that are part of a farm or farm management unit. This can include land that is not used to grow *crops* or support agriculture directly. *Agricultural land* is land that is used directly or indirectly in the production of *agricultural products*, including *cropland*, grassland, *rangeland*, pasture, roads, *crop* buffer areas, farm building areas, and other land on which *agricultural products* or livestock are produced and resource concerns may be addressed. *Agricultural land* is a sub-set of *farmland*. It is an area of *farmland* where a *Standard User* focuses their attention on *crop* or pasture production for livestock enterprises. *Cropland* includes land primarily for the direct production of *agricultural products* for harvest, including, but not limited to, land in row *crops* or close-grown crops, forage *crops*, horticultural *crops*, orchards, vineyards, and other lands used to produce *crops*. Pastureland includes land primarily for the direct production of pasture or crops grown for the purpose of raising livestock for production and/or animal products. Hence, farmland includes pastureland, *cropland*, *agricultural land*, and incidental land not used in production that is part of a farm or farm management unit.

Animal agriculture management can be assessed using the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 where land is *cropland*, grassland, *rangeland*, pastureland, or other land on which *agricultural products* or livestock are produced.

Forest and wood-fibre management on land such as *natural forest*s, plantation forests, short rotation woody *crops*, and/or agroforestry cannot be assessed using the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

SECTION 3
SCOPE

What Topics Does the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Address?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 addresses 14 topics that are core to farmland sustainability. These were selected after a review of many other agricultural standards because they reflect major stakeholder concerns and address major *risk* and materiality issues:

1. Sustainable Agriculture Management
2. Soil Health and Conservation
3. Water Resources
4. Crop and Pasture Protection
5. Energy Use, Air Quality, and Climate Change
6. Waste and Material Management
7. Conservation of *Biodiversity*
8. Protection of Special Sites
9. Local Communities
10. Personnel and Farm Labour
11. Legal and Regulatory Compliance
12. Management Review and Continual Improvement
13. Lessee-Operated Operations
14. Animal Well-Being

Who can Implement the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 *Standard Users* can be enterprises such as:

- family farmers including small and large family farms;
- organisations that own or have management authority for *farmland* including *farmland* asset managers and contract farm managers;
- *agricultural product* processors with farmer suppliers who elect to participate as a group; or
- farmers' cooperatives where co-op members elect to participate as a group.

Are Large and Small Farms Held to the Same Requirements by Third-Party Auditors?

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 can be applied to farm management units of any size. All *Standard Users* are held to the same LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, but expectation of conformance evidence may vary with the scope and scale of the Standard User as the size of their farm management unit influences the risk level of adverse impacts posed to society and the environment. Large operations, whether they are defined by the size of operation, number of employees, or annual revenue, have both the potential for greater adverse impact and potentially greater resources to act proactively to achieve positive impacts and mitigate potential adverse impacts than small operations.[9] Hence large operations may be expected to exhibit more activity (e.g., practices, training, documentation, monitoring) under the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 to demonstrate effective management of greater risk of adverse impacts than small operations.

[9] OECD/FAO (2016), OECD-FAO Guidance for Responsible Agricultural Supply Chains, OECD Publishing, Paris.

SECTION 4

IMPLEMENTATION OF THE LH AUSTRALIA FARMLAND MANAGEMENT STANDARD – PASTURE AND LIVESTOCK EST. 2023 — GENERAL INFORMATION

SECTION 4
IMPLEMENTATION

This Section Identifies General Information about the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, which is Useful for Understanding the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Structure

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 is hierarchically structured, starting with Principles at the highest level and ending with Indicators at the finest level (Table 1). The Principles provide the overall vision for the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. *Certification bodies* assess *Standard Users* for conformance with the Objectives, *Performance Measures*, and Indicators.

The order of Objectives, Performance Measures, and Indicators provides increasing directive detail about conformance to the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. At the finest level, conformance to Indicators can provide evidence that the *Objectives* are being achieved by the *Standard user.* Indicators are contextual—that is, they only apply to farms where relevant. For example, Indicator 3.1.3 (Water *Conservation*) would not apply if water is not being extracted for agricultural operations such as irrigation. To determine the conformance of a *farmland* unit to the Standard, a *certification body* will review the conformance evidence for each indicator and assess whether the conformance evidence is sufficient to address the requirements described by the indicator with consideration of local conditions and guided by *agricultural best management practices*.

Table 1. The hierarchical format of the LH Australia Farmland Management Standard – Pasture and Livestock Est.2023, including definitions and examples of Principles, Objectives, Performance Measures, Indicators, and conformance evidence.

DEFINITIONS	LH AUSTRALIA FARMLAND MANAGEMENT STANDARD – PASTURE AND LIVESTOCK EST. 2023 EXAMPLES
A **Principle** is a statement that expresses the **vision and direction** for sustainable agriculture with respect to one or more environmental, social, and economic topics.	**Principle 2. Soil Productivity and Health** To maintain or enhance long-term *soil health* and productivity and to protect soil from degradation.
An **Objective** is a fundamental **goal** of sustainable agriculture with respect to one or more of the **Principles**.	**Objective 2. Soil Health and Conservation** To maintain or enhance *soil health* to optimise yield and protect long-term *soil productivity* on *agricultural lands*.
A **Performance Measure** is a statement that identifies key **criterion or criteria** for assessing performance and compliance of a farm operation with an **Objective**.	**Performance Measure 2.1 Soil Health**: *Standard Users* manage nutrients and apply practices to achieve *crop yield*, *pasture production*, and maintain or enhance *soil health* of *farmland*.
An **Indicator** is a specific **metric** that provides qualitative or quantitative information about performance of a farm operation that is integral to assessing conformance to a standard's **Performance Measures**.	**Indicator 2.1.1 Soil Quality**: Application of *agricultural best management practices* (e.g., tillage systems, *cover cropping*, addition of soil amendments, pasture cover, appropriate rest periods) to maintain or enhance *soil fertility* and physical and biological characteristics of soil.

SECTION 4
IMPLEMENTATION

Conformance evidence is specific information used to assess whether farm operations have met **Indicator** requirements, including activities, documents, statements, measurements, other verifiable information, and/or observations of behaviour, practices, technology, and conditions.

Some examples of optional conformance evidence: A description of tillage systems, *cover cropping*, pasture cover, and grazing practices, including goals; observations from field visits; invoices for *cover cropping* and/or soil amendment spreading contracts; grazing rotation records soil sampling results; *nutrient management* plans; records of workshop attendance or trainings related to *soil health* and quality.

Conformance versus Compliance

The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 is a conformance-based standard. Each Indicator specifies outcomes to which *Standard Users* must conform. This means *Standard Users* have the freedom to achieve Indicator outcomes by any means consistent with the norms established by the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

Conformance Evidence

Certification bodies review conformance evidence during a verification audit to evaluate whether a *Standard User* is in conformance with an Indicator. *Standard Users* have the discretion to manage their operations however they choose as long as their activities produce the conformance evidence necessary to demonstrate conformance with an Indicator. A *certification body* considers local conditions to determine whether a farm management unit is in conformance with the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

There are five common types of activities that serve as conformance evidence: *policies and practices*, *communication and training, documentation, monitoring, and key performance indicators (KPIs*). They often overlap. For example, a *nutrient management* plan is *documentation* evidence that may describe field practices, which is *policy/practice* evidence and may be shared among employees and service providers, which is *communication* evidence. *Standard Users* present their choice of conformance evidence. Some Indicators may indicate a type of evidence to be included (e.g., evidence in the form of written documentation, broadly *agricultural practices*, training exercises, or monitoring practices). Collectively, a farm management system may include a selection of these five types of evidence to convey to a *certification body* that an effective farm management system is in place to achieve conformance with the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

1. **Policies/Practices** are farm management and agricultural policies and practices (including evidence of the establishment of roles and responsibilities) that provide information about a *Standard User's* stewardship activities and performance.[10] Evidence typically may include a description by a *Standard User*, their staff, and/or lessees; field activities observed in the field or demonstrated (e.g., presence of *cover crop* stubble in the spring indicates over-winter *cover cropping* practices); and/or documentation of activities (e.g., vendor invoices for *fertiliser* or pesticide applications or CAPEX activities).

2. **Communication/Training** are internal and/or external communication activities (including emails and memos) and materials addressing farm stewardship and employee training to enhance stewardship activities. Evidence typically may include a description by a *Standard User* or their staff and/or lessee(s), electronic or printed documents, signage, and/or employee training sign-in sheets.

   Training evidence can also include resumes and C.V.s, training certificates, professional licences and certificates, and post-secondary training culminating in diplomas (e.g. Bachelor, Masters, and PhD *programs*), and/or other information that demonstrates *Standard User* staff and/or contractors have the expertise to achieve the outcome described in an Indicator.

[10] The LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Objectives and Performance Measures can serve in effect as organisational policies for Standard Users who have adopted the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

3. **Documentation** is relevant printed and/or electronic documents describing farm stewardship activities. Evidence typically may include formal written policies, emails, standard operating procedures (SOPs), vendor proposals and invoices for installation, goods, and/or other services, monitoring and key performance indicator data, documentation of key stewardship activities, plans (e.g., CAPEX proposals, *nutrient management* plans), permitting documents (e.g., permits and permit applications submitted to local, state, and/or federal agencies required for farm management activities), lease or other agreements, GIS data layers, and documents establishing participation in other voluntary sustainability *programs* and certifications[11], training documents, job descriptions describing responsibilities and roles, and/or corrective actions (including memos) to remedy non-conformance with organisational or LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 objectives.

4. **Monitoring** includes audits or routine reviews of practices and procedures, training, input use, and resource use (e.g., water, *fertilisers*, *crop and pasture protectants*) and impacts. Evidence may include printed or electronic data forms or data, field or property survey forms, performance reviews, vendor invoices, and/or *crop* and input records.

5. **Key Performance Indicators (KPIs)** are quantitative and qualitative indicators of resource use and activity impacts used to evaluate progress toward a goal or *objective.* They may include proxy KPIs. For example, annual energy costs might be reviewed annually as a proxy for tracking annual energy use.

Enrolment in Other Regulatory and Voluntary Programs as Conformance Evidence

Standard Users may use activities used to meet their existing reporting requirements as evidence to achieve conformance with the LH Australia Farmland Management Standard – Livestock and Pasture Est. 2023. This may include reporting requirements for legal compliance (e.g., national approvals, state permits, etc.) and for relevant voluntary sustainability programs (e.g., research, local *conservation* programs, *supply chain* surveys, industry *programs*, etc.). Enrolment paperwork, activities, reviews, trainings, and checklists are useful conformance evidence.

Understanding and Interpreting Indicators

Understanding key terms and phrases can help *Standard Users* interpret each Indicator. Most Indicators for *Objectives* 2 through 8 and 14 apply to field operations (on-farm *objectives*) and may be directed at one of three land types farmland (e.g., *agricultural land*, pastureland, and *cropland*), *agricultural land* (e.g., land that is used directly or indirectly in the production of *agricultural products*), pastureland (e.g., land primarily for the direct production of pasture or *crops* grown for the purpose of growing livestock for production and/or animal products), and *cropland* (e.g., land used primarily for the direct production of *agricultural products* for harvest). Understanding the relevant land types of an Indicator will help a *Standard User* understand whether an Indicator applies only to *pastureland*, *cropland*, *agricultural land*s, or to the entire farm unit.

Key phrases can also help a *Standard User* apply the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. Table 2 identifies the key phrases that *Standard Users* can use to identify the type of evidence needed to achieve conformance.

[11] This can include enrolment in national, state, and local voluntary programs, participation in supply chain programs aimed at improving agricultural stewardship, partnerships with co-ops and other organisations, including local and regional conservation organisations, and crop or livestock certification programs (e.g., GLOBALG.A.P., national or regional crop certification programs, geographic or industry-based livestock certification programs).

Table 2. Key phrases for interpreting the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Indicators

INDICATOR WORDING STARTS WITH	A DESCRIPTION OF CONFORMANCE EVIDENCE NEEDED
A *process* for	A *process* is a *purposeful series of practices or routines (formal or informal)*. Having a *process* requires thoughtfulness that exceeds ad hoc application of activities. *Standard Users* will have to demonstrate that they have a *process* with a routine and purpose. The order and application of specific activities can vary from year to year or from application to application. Conformance does not require a SOP document or a policy document.
A *program* to/for	A program is an organised system or set of activities. A program requires a systematic level of activity and requires being more methodical and more conformance evidence than a process. Written plans often can be used to describe an organised system or program for nutrient or water management. *Standard Users* will have to present evidence that describes an organised system or set of activities.
A written	*Standard Users* will have to present written policies, statements, or agreements often with evidence of supporting actions to ensure staff understand and are able to implement written policy or agreements. These Indicators may include requirements unique to the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.
Application of agricultural or animal well-being best management practices to	*Standard Users* will have to present evidence for the application of practices. Agricultural or animal well-being best management practices are practices, or a combination of practices, deemed to be best practice for meeting productivity, economic, social, and environmental (sustainability) outcomes. These recommended practices are typically developed by any combination of industry Research and Development Corporations (RDCs), state government agencies, research institutions (such as universities and CSIRO), Natural Resource or Catchment Management Authorities, and farming systems groups. Evidence of practices may be visually seen directly or indirectly (e.g., completed practices) in the field, described by field staff, and/or supported by documentation or evidence of training and/or communication. Indicators with this language are easier to address than Indicators requiring a *process*.
Demonstration	*Standard Users* demonstrate how they have achieved the outcome described by the Indicator, which may include a commitment or action showing due diligence.
Application of	*Standard Users* provide evidence of the application of practices and/or technologies. These may be described by field staff, supported by invoices or CAPEX documents for equipment, or seen in the field.
Management of	*Standard Users* must demonstrate sufficient management of topics described in the Indicator to achieve the outcome specified by the Indicator. Standard Users may be asked to demonstrate consistency with *agricultural best management practices*.
Monitoring of	*Standard Users* must show evidence of monitoring activities sufficient to achieve the outcome described in the Indicator. These activities might include monitoring training, documentation, and/or printed or electronic monitoring data.

Participation individually or collaboratively	*Standard Users* must show evidence of participation or membership in external efforts and awareness and understanding among appropriate staff.
Training	*Standard Users* must demonstrate evidence of specific training identified by the Indicator. Evidence might include a description of training events, attendance records, and training content (printed and/or electronic materials and documents).
Use of	*Standard Users* must demonstrate evidence of activities or equipment described in the Indicator. *Standard Users* may define the scope and what is sufficient to achieve the outcome described in the Indicator, but it must be credible to the *certification body*.

More on Agricultural and Animal Well-Being Best Management Practices

Agricultural and *animal well-being best management practices (agricultural BMPs or animal well-being BMPs)* are a common reference point for *Objectives* 2 through 5 and 14. There is also guidance information useful for addressing *Objective* 6 (Waste and Material Management), *Objective* 7 (Conservation of *Biodiversity*), *Objective* 10 (Personnel and Farm Labour), and *Objective* 14 (Animal Well-Being). *Standard Users* must only demonstrate the application of applicable agricultural or animal well-being BMPs for the region of the operation and those relevant to the livestock, pasture, and crop(s) under consideration.

SECTION 5

IMPLEMENTATION OF THE LH AUSTRALIA FARMLAND MANAGEMENT STANDARD – PASTURE AND LIVESTOCK EST. 2023 INDICATOR CONFORMANCE

SECTION 5
INDICATOR CONFORMANCE

This section provides information about each *Objective* and guidance regarding conformance evidence for each Indicator. **It does not replace any portion of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 and is for guidance purposes only to support the use of LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 by *Standard Users*.** Key words are italicised and defined in the glossary.

An Indicator may have one of three scopes: the management system of the Standard User, *farmland* enrolled by the Standard User, and *farmland lessees* (where applicable) on *farmland* enrolled by the *Standard Users*. *Objective*s 1 and 7 through 13 (the off-farm *objectives*) **apply to the management system** of the *Standard Users* that is used to manage enrolled *farmland*, except for Indicators 7.2.3, 7.3.1, and 9.4.1. *Objectives* 2 through 6 and 14 and Indicators 7.2.3, 7.3.1, and 9.4.1 (the on-farm *objectives*) **apply to the management of all farmland** enrolled under the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. Indicator 13.1.4 **applies to all *farmland lessees*** of leased *farmland* enrolled under the LH Australia Farmland Management Standard Est. 2023. The activities of *farmland lessees* may contribute to the performance of the Standard User for *Objectives* 2 through 6 and 14 and Indicators 7.2.3, 7.3.1, and 9.4.1, but the Standard User is responsible for conformance to these *Objectives*, *Performance Measures*, and Indicators.

This section provides guidance for conforming with each Indicator so that *Standard Users* can better understand and interpret each Indicator. It identifies key sustainability considerations that help define each Indicator and the conformance evidence necessary to achieve conformance to each Indicator. It also provides **conformance evidence examples** for each Indicator to illustrate a broad range of relevant and *discretionary* conformance evidence.

Objective 1. Sustainable Agriculture Management:

To practise sustainable agricultural stewardship to improve production and ensure long-term agricultural sustainability.

Background: Sustainable agriculture requires taking a long-term and large-scale management view of agricultural sustainability and consider the sustainability of an operation in the context of its region and *crop* sector. This includes careful consideration and planning for financial, market, social, and environmental conditions on and off the farm. The purpose of this Objective is to ensure *Standard* Users apply a long-term and large-scale management view to help ensure the sustainability of their operation(s).

Performance Measure 1.1 Sustainable Agricultural Stewardship: *Standard Users* shall demonstrate their commitment to sustainable agricultural stewardship of *farmland*.

Indicator 1.1.1 Farmland Stewardship Commitment: A written commitment statement and list of goals that describe the sustainable agricultural stewardship of *farmland*.

Guidance: A written sustainability commitment statement and list of stewardship goals help *Standard Users* achieve agricultural sustainability by communicating their purpose and direction to their employees, customers, vendors, and other stakeholders and ensuring consistent strategic direction and operations. It also provides a clear vision to employees necessary to jointly achieve stewardship goals.

Conformance Evidence Examples: A written commitment statement and list of goals, which may be supported by conformance evidence such as: a description of how the statement and goals are used to guide agricultural stewardship; demonstration that staff understand and implement the commitment statement and stewardship goals; onboard training about commitment statement and goals; and a description of policies and/or practices used to achieve goals.

Indicator 1.1.2 Farmland Stewardship: Demonstration of the management of major synergies and tradeoffs between the economic, social, and environmental dimensions of sustainable agricultural stewardship of *farmland* while ensuring long-term profitability and sustainability.

Guidance: Sustainable agriculture requires managing for the triple bottom line (e.g., the economic, social, and environmental dimensions, which are elaborated by the Indicators in the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023) and their complex synergies and tradeoffs. Successful management of the triple bottom line leads to long-term profitability and sustainability. This Indicator requires *Standard Users* to describe the integrated management of all Indicators.

The conformance evidence for Indicator 1.2.1 (*Critical External Factors*) may also be applicable to this Indicator, especially for *Standard Users* with one farm.

Conformance Evidence Examples: A description of relevant economic, social, and environmental factors in the area(s) of operation, how synergies and tradeoffs are managed, and long-term profitability and sustainability are achieved, which may be supported by: related planning

documents (e.g., business plans, loan documents, cost-share agreements, or acquisition due diligence documents); employee sustainability training; and use of LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 *program*.

Indicator 1.1.3 Farmland Conservation: *Conservation* of *prime farmland* to avoid its conversion to non-agricultural uses when conversion would adversely impact regional agriculture.

Guidance: *Prime farmland* has the best combination of physical and chemical characteristics for producing *agricultural products*. Its *conservation* can help sustain regional agriculture. Conversion of *farmland* may be acceptable when: it is not prime *farmland*; it is in areas where agriculture is insignificant or would not be impacted by *farmland* loss; or small areas are converted to support agriculture (e.g., building equipment sheds and silos). Indicator 1.1.3 ensures *Standard Users* support the sustainability of regional agriculture by avoiding impactful *prime farmland* conversion and manage reputation.

Conformance Evidence Examples: A *description* of activities and criteria used to avoid the conversion of *prime farmland*; a description of *farmland* conversion practices; knowledge of the regional status of *prime farmland*, regional agriculture, and its *conservation* by Standard User; a *farmland* conversion *policy*; employees' knowledge of *Standard User's* conversion *policy*; and mapping of ownership and *prime farmland agricultural land*.

Performance Measure 1.2 Critical External Factors: *Standard Users* shall manage for potential impacts of *critical external factors* to help ensure long-term profitability and sustainability of each farm or farm management unit by the *Standard User.*

Indicator 1.2.1 Adapting to *Critical External Factors*: A *process* for periodically identifying *critical external factors* and adapting to their impacts to ensure the long-term profitability and sustainability of agricultural production of a farm or farm management unit.

Guidance: *Critical external factors* are any off-farm factors that are materially and substantively relevant to the viability, long-term profitability, and sustainability of agricultural production of a management unit or farm. They may include economic factors (e.g., regional market demand and opportunities and regulatory changes), environmental factors (e.g., regional availability of water and other inputs), and social factors (e.g., social licence). They can pose business *risk* or lost strategic opportunities if ignored.

Indicator 1.2.1 ensures that *Standard Users* have considered and adapted to *critical external factors* for each farm.

The conformance evidence of three other Indicators may be used as evidence for this Indicator. Indicator 1.1.2 (*Farmland Stewardship*) may have a broader spatial scope (e.g., apply across farm management units for multi-farm *Standard Users*) and management scope (e.g., all aspects of sustainability and their synergies and tradeoffs), but can include consideration of *critical external factors*. Indicator 12.1.3 (Agricultural Innovation) requires the identification of innovative strategic opportunities, which might also be *critical external factors*. Indicator 12.1.1 (Performance Review) requires annual reviews in which *critical external factors* might incidentally be identified.

Conformance Evidence Examples: A description of a purposeful, formal or informal set of practices for periodically identifying *critical external factors* and adapting to their impacts, which may be supported by: a description of how *critical external factors* are identified and adapted to for each operational unit while ensuring long-term profitability and sustainability; a description of *critical external factors*; and/or documents that identify and plan adaptations or adjustments to *critical external factors* (e.g., due diligence acquisition documents, loan agreements, CAPEX plans, marketing plans, business plans).

Objective 2. Soil Health and Conservation

To maintain or enhance *soil health* to optimise yield and *pasture* production and protect long-term *soil productivity* on *agricultural land*s.

Background: *Soil health* is the capacity of soil to function as a vital living ecosystem that sustains *crops*, *pasture*, soil organisms, and humans. Healthy soils are the foundation of sustainable agriculture. Their maintenance includes consideration of the physical, chemical, and biological characteristics of soil. They sustain optimal yields and *pasture* production for people and animals and protect *water quality* and environmental health.

Performance Measure 2.1 Soil Health: *Standard Users* manage nutrients and apply practices to achieve *crop* yield, pasture production, and maintain or enhance *soil health* of *farmland*.

Indicator 2.1.1 Soil Quality: Application of *agricultural best management practices* (e.g., tillage systems, *cover cropping*, addition of *soil amendments*, *pasture cover*, *rest periods*) to maintain or enhance *soil fertility* and physical and biological characteristics of soil.

Guidance: Maintaining or enhancing *soil health* includes maintaining or enhancing its chemical, physical, and biological characteristics and is the foundation of sustainable agriculture. It starts with the application of *agricultural best management practices* (*agricultural BMPs*) as needed to maintain or enhance *soil health*.

Conformance Evidence Examples: A description and/or in-field demonstration of the application of *agricultural BMPs* that maintain or enhance *soil fertility* and physical and biological characteristics of soil, which may be supported by conformance evidence such as: annual planning documents and vendor invoices; soil testing data for chemical, physical, and/or biological characteristics of the soil; soil maps; paddock rotation records; and relevant credentials of farmer(s), farm manager(s), and/or vendors.

Indicator 2.1.2 Soil Health Monitoring: Monitoring of *soil health* characteristics, including nutrients from different sources necessary to maintain or enhance *appropriate* nutrient balance and *soil health*.

Guidance: *Soil health* monitoring ensures that *soil health* is routinely assessed so that a farmer can take action to ensure its maintenance if necessary. Monitoring *soil health* includes tracking nutrients from different sources necessary to maintain or enhance *appropriate* nutrient balance and *soil health*. The monitoring system should consider monitoring of other *soil health* characteristics, but these will vary depending on the livestock and/or cropping system, soil type, and guidance from *soil health* advisors.

Conformance Evidence Examples: A description of *soil health* monitoring system, which may be supported by conformance evidence such as: soil test data for nutrients and other chemical, physical, and/or biological characteristics of the soil; nutrient inputs and losses, and annual pasture and/or crop nutrient requirements; agronomist consultant nutrient recommendations; soil maps; credentials of farmer(s), farm manager(s), and/or vendors.

Indicator 2.1.3 *Nutrient Management Program*: An up-to-date *nutrient management program* that efficiently uses nutrient inputs, both synthetic and biological, and nutrients in the soil and *crops* or *pastures* to create optimum conditions for *crop* and *pasture* production and nutrient utilisation and avoids nutrient loss to water and air.

Guidance: A *nutrient management program* is a necessary, organised system or set of activities to help ensure that nutrients, both synthetic and biological, are efficiently applied and optimally managed to achieve desired *crop* and *pasture* productivity and avoid nutrient loss to the air and water. For some farms, it may be well described by a *nutrient management* plan. The conformance evidence for Indicators 2.1.1 (Soil Quality), 2.1.2 (Soil Monitoring), and 2.1.4 (*Crop Residues*) provide the base evidence for this Indicator.

Conformance Evidence Examples: A description and/or in-field demonstration of a *nutrient management program* that efficiently uses nutrients to create optimum conditions for *crop* and *pasture* production and *minimises* nutrient loss to air and water, which may be supported by: a *nutrient management* plan; plant tissue data; soil test records; agronomist consultant nutrient recommendations; *effluent* management plans; credentials of farmer(s), farm manager(s), crop, pasture or livestock consultant(s), and/or vendor nutrient applicators.

Indicator 2.1.4 *Crop Residues*: Application of *agricultural best management practices* to use *crop residues* to maintain or improve *soil health* and long-term *soil productivity* where *appropriate*.

Guidance: *Crop residues* are materials from growing *crops* left on the soil surface or partially incorporated into the soil. They may include: stalks, stubble, leaves, chipped branches and vines, woody biomass from orchard and vineyard redevelopment, and seed pods. They contribute to *soil health* and *soil productivity* by: increasing soil organic matter and nutrients; controlling *soil erosion*; improving soil moisture retention, structure, and *biodiversity*; and improving water filtration. *Crop residue* retention may not be *appropriate* when it is expensive, supports *pests*, or reduces *crop productivity*. The conformance evidence of in-field practices for Indicator 6.2.2 (Resource Recovery of *Agricultural Waste*) may also be applicable to this Indicator.

Conformance Evidence Examples: A description and/or demonstration of in-field application of *agricultural BMPs* used to manage *crop residues*, which may include: evidence in the field of *crop residues*; *crop* consultant nutrient recommendations, which address nutrients in *crop residues*; credentials of farmer(s), farm manager(s), or *crop* consultant(s); *cover crop* invoices.

Indicator 2.1.5 Effluent Application: Manage the effect of *effluent* addition to land where *appropriate*, to *minimise* degradation of soil structure, salinisation, waterlogging, chemical contamination or erosion, and to instead utilise the nutrient benefit of *effluent* application to land by following *best management practices* (*e.g. nutrient budgeting*) and soil and *effluent* testing advice.

Guidance: *Effluent* consists primarily of water, urine, and manure and has often been collected and stored prior to application. *Appropriate* application to land is necessary to manage the often high amount of nutrients that are found in the *effluent* so that there is not an adverse effect on soil, water, or surrounding amenities, while also utilising the beneficial aspects of the nutrients. *Effluent* application will not be applicable to all enterprises. The conformance evidence for Indicators 2.1.1 (Soil Quality), 2.1.2 (Soil Monitoring), and 2.1.3 (*Nutrient Management Program*) provide the base evidence for this Indicator.

Conformance Evidence Examples: A description and/or demonstration of in-field application of *agricultural BMPs* used to manage *effluent* application, which may include: evidence in the field of *effluent* application; agronomist nutrient recommendations, *effluent* management plan; credentials of farmer(s), farm manager(s), agronomist consultant(s); *effluent* application invoices.

Performance Measure 2.2 Soil Conservation: *Standard Users* shall implement *agricultural practices* to *minimise soil erosion* and avoid degradation of *agricultural land*s.

Indicator 2.2.1 Cropland Soil Management: Application of *agricultural best management practices* to *minimise soil erosion* and physical damage (e.g., compaction) of *cropland* and restore *soil health* where *appropriate*.

Guidance: Soil *conservation* is the prevention of the loss of topsoil from erosion and of fertility from overuse or accumulation of adverse compounds. *Soil erosion* and damage can reduce *crop* yields by 50 per cent. Agricultural soil *conservation* BMPs, which *minimise soil* erosion, maintain fertility, and restore soil, can be applied to *cropland* as needed to ensure long-term *crop productivity* and sustainability. This Indicator focuses on *cropland* at the field level while Indicator 2.2.2 focuses on pastureland at a field level and Indicator 2.2.3 focuses on all *agricultural lands* on a farm. The conformance evidence for Indicators 2.1.1 (Soil Quality) and 2.1.4 (*Crop Residues*) may also be applicable to this Indicator.

Conformance Evidence Examples: A description and/or in-field demonstration of *agricultural BMPs* used to *minimise soil erosion* and damage to *cropland* and practices used to restore *soil health*, which may be supported by: crop consultant recommendations for cropping and in-field structural practices, which control *soil erosion*; credentials of farmer(s), farm manager(s), *crop* consultant(s); vendor invoices used for sub-soiling and other practices to alleviate soil compaction and damage; environment management plans for erodible soils.

Indicator 2.2.2 Pastureland Soil Management: Apply a *process* of *grazing* management that includes *agricultural best management practices* to maximise ground cover and *minimise soil erosion* and physical damage (e.g., compaction) of *pastureland*.

Guidance: Soil *conservation* is the prevention of the loss of topsoil from erosion and of fertility from overuse or accumulation of adverse compounds. *Soil erosion* and damage such as *overgrazing*, pugging, and compaction can have significant impacts on the productivity of *pastures*. Grazing and agricultural soil *conservation* BMPs, which maximise ground cover, *minimise soil erosion*, maintain fertility, and restore soil, can be applied to pasture*land* as needed to ensure long-term *pasture* productivity and sustainability. This Indicator focuses on pastureland at the field level while Indicator 2.2.1 focuses on *cropland* at a field level and Indicator 2.2.3 focuses on all *agricultural lands* on a farm. The conformance evidence for Indicator 2.1.1 (Soil Quality) may also be applicable to this Indicator.

Conformance Evidence Examples: A description and/or in-field demonstration of *agricultural BMPs* used to maximise ground cover, *minimise soil erosion* and damage to *pastureland* and practices used to restore *soil health*, which may be supported by: agronomist consultant recommendations for pasture and livestock management and in-field structural practices, which control *soil erosion*; credentials of farmer(s), farm manager(s), agronomist consultant(s); vendor invoices used for sub-soiling, rolling and other practices to alleviate soil compaction and damage; environment management plans for erodible soils.

Indicator 2.2.3 Degradation of *Agricultural Lands*: A process to avoid the widespread loss of *agricultural lands* to *soil mismanagement* (e.g., failure to prevent extensive *soil erosion*, acidification, salinisation, compaction, pugging, *overgrazing*, and accumulation of other adverse compounds).

Guidance: Systematic application of soil *conservation* principles across a farm operation(s) can prevent loss of *agricultural lands* from widespread soil degradation.

This Indicator focuses on all *agricultural lands* across the farm while Indicator 2.2.1 focuses on cropland at the field level and Indicator 2.2.2 focuses on pastureland at the field level. The conformance evidence for Indicator 2.2.1 (Cropland Soil Management) and Indicator 2.2.2 (Pastureland Soil Management) may also be applicable to this Indicator.

Conformance Evidence Examples: A description and/or in-field demonstration of a formal or informal set of routines used to avoid *soil mismanagement* (e.g., extensive *soil erosion*, acidification, salinisation, and accumulation of other adverse compounds), which could be supported by: management and field practices to prevent *soil mismanagement*; field observations that suggests a lack of *soil mismanagement*; *crop* and agronomist consultant recommendations for practices, which *mitigate soil mismanagement*; credentials of farmer(s), farm manager(s), crop and agronomist consultant(s); *soil erosion* plans; soil test data for pH, salinisation, and/or other adverse compounds.

Objective 3. Water Resources

To protect water resources and manage water for efficient *agricultural productivity*.

Background: In 2020/21, 1.9 million hectares of Australian *agricultural land* was irrigated using 7.8 million megalitres of water. 22 per cent of irrigation water is sourced from *groundwater*, while 72 per cent is sourced from *surface water*s (rivers, lakes, irrigation channels, or pipelines). There are significant concerns regarding over-allocation of irrigation water in Australia, and practices to optimise water use efficiency are critical to sustainability. Agriculture can also be an important source of sediment, nutrients, pesticides, salts, and pathogens in *surface water* and *groundwater*. Water use and impacts can pose a strategic and reputational risk for agriculture in many regions. Hence, *conservation* of water resources is a key issue in agricultural sustainability.

Performance Measure 3.1. Water Use: *Standard Users* shall conserve water resources and manage water use to avoid long-term depletion and maintain *crop* and *pasture productivity*.

Indicator 3.1.1 Agricultural Water Withdrawal: A *process* for avoiding the depletion of available *surface water* and *groundwater* resources beyond the recharge capacity of the watershed or catchment and by direct withdrawal where *surface water* or *groundwater depletion* is an issue as determined by a State-based *water regulatory agency*.

Guidance: Depletion of *groundwater* and *surface water* has become a critical *risk* to regional agricultural and municipal sustainability in some areas. *State regulatory agencies* govern water withdrawals and use to remedy this issue. Well-established irrigation practices can be used by farmers to avoid contributing to *surface water* and/or *groundwater depletion*. **This Indicator only applies when *Standard Users* use *surface water* and/or *groundwater* to irrigate *pasture* and/or *crops* or extract water under licence for other uses including consumptive use through infrastructure including dairies.** Conformance evidence for Indicators 3.1.2 (Regional Water *Conservation*) and 3.1.3 (Water *Conservation*) may be applicable to Indicator 3.1.1 when it addresses *surface water* and/or *groundwater* withdrawal and *conservation*.

Conformance Evidence Examples: A description of a set of informal or formal practices or routines for avoiding the depletion of surface and/or *groundwater* resources beyond the recharge capacity and/or allocation limits and conditions granted by state or regional-based water authorities, which may be supported by: documentation for surface and/or *groundwater* removals; water meter readings; acquisition due diligence reports on water resources; water entitlement permits and reports; participation in *water regulatory agency* workshops.

Indicator 3.1.2 Regional Water *Conservation*: Participation individually or collaboratively in regional water *conservation programs* where appropriate to help foster responsible use and *conservation* of *groundwater* and *surface water* used for agriculture.

Guidance: Regional water *conservation programs* help conserve *groundwater* and *surface water* used for agriculture and ensure its availability and reduce costs. Regional efforts can pool resources, which can scale up water use *conservation* and help achieve water *conservation* goals. **This Indicator only applies where *Standard Users* use *surface water* and/or *groundwater* to irrigate pastureland and/or *cropland*, or extract water under licence for other uses including consumptive use through infrastructure including dairies.**

Conformance Evidence Examples: A description of individual or collaborative participation in regional water use *conservation programs* (e.g., water district water boards, advisory committees) in agriculture, which may be supported by: communications with regional water *conservation programs*; meeting attendance records; board membership of regional water use *conservation programs*; evidence of how participation has helped foster responsible use and *conservation* of *groundwater* and *surface water*.

Indicator 3.1.3 Water Conservation: A water management *program* that uses *appropriate* technology (including washdown and irrigation system design) and applies *agricultural best management practices* to utilise water efficiently; to provide water tailored to *plant* needs; and to control *pests*, pathogens, salinisation, and accumulation of other adverse compounds.

Guidance: The greatest water *conservation* gains have been achieved by systematically improving irrigation systems and applying *agricultural BMPs*, which also have reduced costs and increased productivity.

This Indicator only applies when *Standard Users* use *surface water* and/or *groundwater* to irrigate pastureland and/or *cropland* or extract water under licence for other uses including consumptive use through infrastructure including dairies. Conformance evidence for Indicator 3.1.2 (Regional Water *Conservation*) may also be applicable to this Indicator.

Conformance Evidence Examples: A description of an organised *process* to conserve water and manage *pests*, salinisation, and other adverse impacts to pastureland and *cropland* that may include improvements to the irrigation technology, washdown technology in dairies or other infrastructure and/or agricultural irrigation BMPs, which may be supported by: documents regarding water *conservation* (e.g., irrigation management plans, *effluent* management plans, and agricultural water management plans); water use permits and reports; participation in regional or state water *conservation* efforts; use of soil- or plant-moisture sensing technologies or commercial irrigation scheduling services.

Performance Measure 3.2 Water Quality: *Standard Users* shall apply a program to properly manage the use of *fertilisers* and other *soil amendments*, *crop protectants*, and other inputs and impacts of livestock on waterways, to avoid release of sediment, nutrients, or faecal contamination from *agricultural lands* into *groundwater* and *surface water*.

Indicator 3.2.1 Input Application on *Agricultural Lands*: Application of *agricultural best management practices* when applying *fertilisers* and other *soil amendments*, *crop protectants*, and other agricultural inputs to avoid and control the infiltration of nutrients, *crop protectants*, and pathogens into *groundwater* and *surface water*.

Guidance: Nutrients, pesticides, and salts from agriculture can enter *groundwater* and *surface water* and pose a risk to human and environmental health. Water contamination can be *minimise*d by applying *agricultural BMPs* to control the infiltration of agricultural inputs. In contrast to Indicator 3.2.2 (*Water Quality Protection*), this Indicator focuses on in-field application of agricultural input practices to avoid infiltration of all agricultural inputs into *groundwater* or *surface water*. Conformance evidence for four other Indicators, which address management of agricultural inputs may be applicable to this Indicator: Indicator 2.1.3 (*Nutrient Management Program*) and Indicator 6.2.3 (Responsible and Efficient Management of Effluent), which address nutrient loss to water; and Indicators 4.1.3 (*Pest* Control Practices) and 4.2.1 (Application and Storage of *Plant Protectants*), which address application and storage of *crop and pasture protectants* to avoid their release into *groundwater* and *surface water*.

Conformance Evidence Examples: A description and/or in-field demonstration of *agricultural BMPs* used to protect *groundwater* and *surface water* from agricultural inputs, which may be supported by: *nutrient management* plans; *effluent* management plans; tillage practices (*conservation* tillage, no-till tillage) that reduce input infiltration; chemical use practices (reduce chemical use, use chemicals with short half-lives) that reduce infiltration.

Indicator 3.2.2 Water Quality Protection: Application of *agricultural best management practices* to manage water and *effluent runoff* from *farmland* into *surface water* and protect *wetlands* and *riparian* areas and the *water quality* of *groundwater* and *surface water*.

Guidance: Agriculture is associated with *water quality* impairment and regulation of a large proportion of the river systems in Australia. Water pollution from agricultural *runoff* can be measurably reduced by applying *agricultural BMPs*. *Agricultural BMPs* may include structural practices, which physically control water *runoff* and protect *wetlands* and water resources. This Indicator focuses on applying *agricultural BMPs* to manage surface *runoff* leaving *farmland* while Indicator 3.2.1 (Input Application on *Agricultural Lands*) focuses on in-field practices for managing agricultural inputs. Conformance evidence for four other Indicators may be applicable to this Indicator: Indicator 2.1.3 (*Nutrient Management* Program) and Indicator 6.2.3 (Responsible and Efficient Management of Effluent) address nutrient loss to water; and Indicators 4.1.4 (*Pest* Control Practices) and 4.2.1 (Application and Storage of Plant Protectants) address application and storage of *crop and pasture protectants* to avoid their release to *groundwater* and *surface water*.

Conformance Evidence Examples: A description and/or in-field demonstration of structural *agricultural BMPs* used to protect *wetlands* and water resources from *runoff*, which may include: appropriate irrigation system design; drain practices (e.g., biofilters, flow controls); trapping practices (e.g., terraces, grassed waterways, buffer/filter strips, cover *crops*); tillage practices (*conservation* tillage, no-till tillage); chemical use practices (reduce chemical use, use chemicals with short environmental half-lives); and registered protected areas.

Indicator 3.2.3 Water Quality Protection from Livestock: Application of *agricultural best management practices* to protect *surface water*, *wetlands*, and *riparian areas* from the impacts of livestock.

Guidance: Agriculture is associated with *water quality* impairment and regulation of a large proportion of the river systems in Australia. Contamination of waterways from livestock through faecal and sediment incursion has long been an issue identified that can cause *water quality* degradation on a regional and catchment level. State and Federal Governments, water authorities, and other organisations often have grants and initiatives in place to support the *protection* of these *riparian zones* and waterways through practices such as the fencing of *riparian zones* and improved water crossing points.

This Indicator focuses on managing livestock around waterways, while Indicator 3.2.1 (Input Application on *Agricultural Lands*) focuses on in-field practices for managing agricultural inputs and Indicator 3.2.2 (*Water Quality Protection*) focuses on applying *agricultural BMPs* to manage surface *runoff* leaving *farmland*. Conformance evidence for other *Objectives* and Indicators may be applicable to this Indicator including, but not limited to: *Objective* 7, and Indicator 6.2.3 (Responsible and Efficient Management of *Effluent*).

Conformance Evidence Examples: A description and/or in-field demonstration of *agricultural BMPs* used to protect *wetlands* and water resources livestock, which may include: fencing practices, water crossing practices, grazing practices, drainage practices, and registered protected areas.

Objective 4. Crop and Pasture Protection

To achieve *crop* and pasture *protection* objectives while protecting people and the environment.

Background: Appropriately used, *crop and pasture protection* and the use of *crop and pasture protectants* can enhance productivity and reduce *crop* losses that lower *pasture* productivity. *Crop and pasture protectants* may have deleterious impacts on humans and *wildlife* when poorly managed. *Integrated Pest Management (IPM)* has been shown to reduce *crop* and *pasture protectant* risk to humans and the environment and enhance *crop and pasture productivity* while reducing costs.

Performance Measure 4.1 Integrated Pest and Disease Management: *Standard Users* shall protect *crops* and *pasture* against *pests* and disease by implementing an *Integrated Pest Management program* that uses *appropriate biosecurity* and best management practices to achieve plant protection objectives.

Indicator 4.1.1 Pest and Disease Prevention: A *process* for preventing *pests* and *disease* through *appropriate biosecurity* and *agricultural best management practices*.

Guidance: *Pest* and disease prevention is used to prevent problems related to *pests* and disease before they arise using proactive measures to prevent *pests* and disease from arriving on-farm. A whole farm *biosecurity* plan forms part of an integrated *pest* and disease management *program* as the first line of defence to *minimise* the risk of introducing *pests* and disease.

Conformance Evidence Examples: A description of a whole farm *biosecurity* plan efforts in accordance with *agricultural BMPs* which may include: quarantining, vehicle washdowns, vendor declarations, signage, and visitor access protocols.

Indicator 4.1.2 Pest and Disease Monitoring: Proactive monitoring of plant health to identify plant production issues at an early stage and enable *appropriate* preventative or protective measures to be taken.

Guidance: *Pest* and disease monitoring is essential for detecting and applying timely controls when *pests* are at low densities or disease is at an early stage. It can significantly reduce the use of *crop and pasture protectants* and their cost and avoid major production losses. It is also a core part of any IPM program.

Conformance Evidence Examples: A description of *pest* and disease monitoring efforts and their contribution to reducing plant loss and injury, which may be supported by: identification of threshold effects resulting in excessive plant loss and injury; *pest* and disease scouting records; service provider invoices for monitoring; and *pest* and disease scouting credentials of farmer(s), farm manager(s), and/or vendors.

Indicator 4.1.3 Plant Protection: A *process* for preventing excessive *crop* or *pasture* loss from *pests*, *crop* or *pasture protectant* resistance, and buildup and spread of *pests*.

Guidance: *Pests* can be responsible for plant losses of 50 per cent for some plants. IPM reduces plant losses by applying *appropriate biosecurity* measures and a set of *agricultural BMPs* to prevent excessive plant loss from *pests*, *crop* and *pasture* protectant resistance, and the buildup and spread of *pests*. It often includes the prudent application of *crop and pasture protectants*. Conformance evidence for three other Indicators may be also applicable to this Indicator: Indicators 4.1.1 (*Pest* and Disease Prevention), which focuses on *pest* and disease prevention through *biosecurity* and agriculture best management practices, 4.1.2 (*Pest* and Disease Monitoring), which focuses on *pest* and disease monitoring, and 4.1.4 (*Pest* Control Practices), which focuses on applying lowest *risk*, selective treatments when *appropriate*.

Conformance Evidence Examples: A description and/or documentation of the set of informal or formal practices used to achieve plant *protection*, including the prevention of excessive plant loss, *crop* and *pasture* protectant resistance, and the buildup and spread of *pests* and disease, which may be supported by: washdown records; *pest* and disease scouting records; vendor invoices for monitoring and application; and *pest* and disease applicators licences of farmer(s), farm manager(s), and/or applicators.

Indicator 4.1.4 Pest Control Practices: Prioritisation of the use of *lowest risk, most selective treatment options* to achieve plant *protection* goals.

Guidance: A key IPM practice is to prioritise low-risk, selective treatments, which also can help maintain natural enemies of *pests* and other beneficial invertebrates such as pollinators and reduce human health and environmental *risks* from *crop and pasture protectants*. Low-risk, selective treatments can also reduce costs. Conformance evidence for Indicator 4.1.3 (Plant Protection) may be applicable to this Indicator.

Conformance Evidence Examples: A description of how lowest *risk*, most selective crop and pasture *protection* treatment options were selected and applied, which may be supported by: crop and pasture protectant recommendation reports; staff knowledge of pest control options; in-field observations of physical (e.g., dust management to control mites), genetic (e.g., pest resistant and GMO varieties), cultural (e.g., crop/pasture rotation, fodder or cover crops, mulching), and/or biological controls (e.g., owl nesting boxes, bio-pesticides, matting disruptor materials); vendor invoices for pest control treatments; and pesticide applicators licences of farmer(s), farm manager(s), and/or applicators.

Indicator 4.1.5 Withholding Periods: Application of a *process* to ensure all withholding periods are met following the application of inputs to crop or pasture including *crop* and *pasture protectants* and *effluent* as per relevant legislation and guidelines to meet *animal* and *human health* objectives.

Guidance: Withholding periods are the minimum length of time that must elapse between the last application of chemical, *fertiliser*, or other input and the harvest or grazing time. Withholding periods are often legally required to be met and records maintained to verify. Conformance evidence for Indicators 2.1.5 (Effluent Application), 4.1.3 (Plant Protection), 4.1.4 (Pest Control Practices), and 4.2.1 (Plant Protectant Management) may be applicable to this Indicator.

Conformance Evidence Examples: A description of how plant protectants are applied and recorded according to regulatory and label requirements, which may be supported by: plant protectant recommendation reports; SDS sheets available to employees; plant protectant recommendation documents; plant protectant application records; staff and/or vendor knowledge of label restriction; vendor invoices for selective treatments; and pest applicator licences of farmer(s), farm manager(s), and/or applicators.

Performance Measure 4.2 Plant Protectant Management: *Standard Users* shall select, use, and store *plant protectants* in accordance with label instructions and regulatory requirements.

Indicator 4.2.1 Application and Storage of Plant Protectants: Application and storage of *plant protectants* according to label instructions and regulatory requirements and application of practices to protect employees, farm workers, public health, and the environment and avoid drift of *plant protectants* offsite.

Guidance: *Plant protectant* label instructions and regulatory requirements provide instructions for safe and effective use of *plant protectants* and help achieve maximum benefits and compliance with regulatory requirements. They also provide guidance on regulatory compliance in the application and storage of *plant protectants*, which helps human and environmental health. This includes consideration of *plant protectant* application practices, storage practices, and facilities.

Conformance evidence for Indicators 4.1.3 (Plant Protection) and 4.1.4 (*Pest* Control Practices) may be applicable to this Indicator where it addresses application practices for *plant protectants*. Conformance evidence for Indicators 6.1.1 (Waste Disposal) and 6.1.3 (Management of *Agricultural Chemicals* and Other Materials) may be applicable to this Indicator where it addresses *appropriate* disposal of agricultural inputs, including *plant protectants*. Conformance evidence for Indicator 10.2.1 (Personnel and Contract Worker Training) may be applicable to this Indicator where it addresses employee training for storage and application of *plant protectants*.

Conformance Evidence Examples: A description of how *plant protectants* are stored and applied according to regulatory requirements, which may be supported by: visual evidence in the field of *appropriate* plant protectant storage; SDS sheets available to employees; plant protectant recommendation documents; staff and/or vendor knowledge of label restriction; vendor invoices for selective treatments; and *pest* applicator licences of farmer(s), farm manager(s), and/or applicators.

Objective 5. Energy Use, Air Quality and Climate Change

To conserve energy used by agricultural operations and *minimise* adverse impacts to the atmosphere and the global climate.

Background: Agriculture consumes approximately 2 per cent of energy used in Australia, with direct energy costs (electricity and fuels) accounting for a large proportion of farm costs and indirect energy costs (*crop and pasture protectants*, *fertilisers*, and other inputs) accounting for 7 to 25 per cent of farm costs. Agriculture contributes about 15 per cent of Australian greenhouse gas (GHG) emissions, including CO_2 from equipment, CH_4 from enteric fermentation, and N_2O from emission from soils, enteric fermentation, and manure management (excluding land use and land use change). This *objective* recognises how agriculture has a unique opportunity to help reduce both energy use and air emissions, which may affect climate and human health and increase resilience to *climate change*.

Performance Measure 5.1 Agricultural Energy Use and Conservation: *Standard Users* shall conserve energy resources, especially fossil fuels, used by agricultural operations.

Indicator 5.1.1 Energy Conservation: Use of technologies and application of *agricultural best management practices* to conserve energy where *appropriate*.

Guidance: Energy *conservation* is a decrease in energy use. It can be achieved in farming by using technologies and practices that reduce direct energy use (e.g. use of electricity and fuels) or indirect energy use (e.g., reduction in energy-consuming agricultural inputs such as *fertiliser*, *crop and pasture protectants*, and/or water). It leads to increased efficiency and reduced costs and emissions that are harmful to human and environmental health. *Agricultural BMPs* for energy *conservation* may not always be available or cost effective for all crop and pasture operations and so may not be *appropriate* for all operations. Conformance evidence for Indicators 2.1.3 (*Nutrient Management Program*), 3.1.3 (Water Conservation), and 4.1.4 (*Pest* Control Practices) may be applicable to this Indicator when they include practices or technologies that reduce direct and indirect energy use.

Conformance Evidence Examples: A description and/or infield demonstration of energy *conservation* technologies and practices, which may be supported by: tracking of annual energy costs; use of software to track energy use of individual equipment; power units and tractor upgrades to more efficient equipment, including variable speed drives; energy-conserving production, tillage, pasture management, and irrigation practices; lighting upgrades, including LEDs; and examples of CAPEX proposals for energy *conservation* technologies.

Indicator 5.1.2 Renewable Energy: Use of *renewable energy* technologies and application of *agricultural best management practices* where *appropriate*.

Guidance: *Renewable energy* includes energy from sources that are naturally replenishing and virtually inexhaustible such as wood, waste, geothermal, wind, photovoltaic, tides and waves, hydropower, solar thermal energy, and biogas. Their use can help reduce fossil fuel use and air emissions that are costly and harmful to humans and the environment. *Renewable energy* and *agricultural BMPs* and technologies may not be available, practical, and/or cost-effective and hence *appropriate* for all operations.

Conformance Evidence Examples: A description and/or Pro Forma documents indicating analysis and consideration of *renewable energy* technologies and practices, which may be supported by evidence such as a description and/or in-field demonstration of *renewable energy* use, including wind turbines, geothermal, solar panels, and/or biogas bunkers.

Performance Measure 5.2 Air Quality: *Standard Users* shall *minimise* adverse impacts to air quality from agricultural operations.

Indicator 5.2.1 Air Emissions: Use of *low-emission technologies* and methane abatement practices when compatible with the most up-to-date agricultural and *animal welfare* best management practices and guidance information.

Guidance: Use of *fertilisers*, pesticides, and fuels in farming can be significant sources of air emissions, as can the production of livestock, which are detrimental to human and environmental health. Technologies and practices that reduce direct energy use (e.g., use of electricity and fuels) or indirect energy use (e.g., reduction in energy-consuming agricultural inputs such as *fertiliser*, *crop and pasture protectants*, and/or water) may also reduce air emissions. New technologies have the potential to reduce emissions from livestock production though this is a new and still-evolving space of technology and consideration of animal health and well-being impacts is required. Conformance evidence for Indicators 5.1.1 (Energy Conservation) and 5.1.2 (Renewable Energy) may be applicable to this Indicator when it reduces air emissions.

Conformance Evidence Examples: A description of low-emissions technology upgrades, which may be supported by: a description of and/or documentation of CAPEX proposals indicating attention to low emissions technologies; a description and/or in-field demonstration of low emissions technology, such as replacement of fuel driven pumps with electrical and/or VSD pumps; reducing field passes; chipping instead of burning wood waste; installation of *renewable energy*; use of methane abatement supplements; upgrading tractor engines to Tier 3.

Indicator 5.2.2 Airborne Dust Control: Application of *agricultural best management practices* to *minimise* airborne dust where and when it adversely affects human health and/or the environment.

Guidance: In some areas and times of year, dust from agricultural operations can be a human health hazard.

This Indicator applies only when and where airborne dust adversely affects humans and/or the environment. The need for dust control measures may vary seasonally and across cropping/livestock systems.

Conformance Evidence Examples: A description and/or in-field demonstration of dust control measures applied when necessary to avoid human health and/or environmental adverse impacts, which may be supported by evidence such as vendor invoices for road dust control and/or equipment upgrades to reduce dust emissions (e.g., harvesters). Conformance evidence to Indicator 9.4.1 (Public Health and Safety) may be applicable to this Indicator when it addresses dust emissions to be managed to protect public health.

Indicator 5.2.3 Odour Management: *Minimise* off-site nuisance or interference with amenity, such as odours associated with *inappropriate* or poorly operated waste treatment *processes*.

Guidance: Where enterprises require waste management of manure or other by-products, or where concentrated livestock activities occur, odour can cause off-site nuisance to surrounding amenities. *Appropriate* waste management systems can alleviate odour generation from these *processes*.

This indicator applies only when and where odour management could adversely affect the surrounding amenities.

Conformance Evidence Examples: A description and/or in-field demonstration of odour management measures applied when necessary to avoid human health, amenity, and/or environmental adverse impacts, which may be supported by evidence such as vendor invoices for waste disposal and/or equipment upgrades to waste processing infrastructure (e.g., ponds or technology). Conformance evidence to Indicator 9.4.1 (Public Health and Safety) may be applicable to this Indicator when it addresses odour management to protect the public from interference to their amenity.

Performance Measure 5.3 *Climate-Smart Agriculture*: *Standard Users* shall apply the principles of *climate-smart agriculture* and/or *carbon farming* to reduce adverse impacts on the global climate and adapt to *climate change*.

Indicator 5.3.1 Greenhouse Gas Emissions: Application of climate-smart *agricultural best management practices* that *minimise* greenhouse gas emissions from agricultural operations and *farmland* and/or sequester *greenhouse gases* that contribute to *climate change* where appropriate. Examples could include, but are not limited to, the application of *low-emission technologies* and practices that reduce the use of agricultural inputs or their volatilisation, increase soil carbon sequestration, and reduce volatilisation of *greenhouse gases*.

Guidance: The agricultural sector contributes about 15 per cent of Australia's GHG emissions, which impact climate. A large proportion of these are created through enteric fermentation from livestock. *Climate change* poses a significant threat to the global environment and agriculture. All sectors need to reduce GHG emissions to address this challenge. Many farms apply *agricultural BMPs*, which reduce and/or sequester GHG emissions as they aim to cut costs, reduce energy or *fertiliser* use, and/or improve *soil health*. Additional technology investments into methane abatement products are an evolving space for livestock enterprises. Conformance evidence for four other Indicators may be applicable to yield conformance evidence for this Indicator: Indicators 2.1.3 (*Nutrient Management Program*), 5.1.1 (Energy Conservation),5.1.2 (*Renewable Energy*), 5.2.1 (Air Emissions), and 6.2.3 (Responsible and Efficient Management of *Effluent*), which may reduce fossil fuel use or CH_4 and NO_x emissions and hence GHG emissions, and Indicators 2.1.4 (*Crop Residues*) and 6.2.2 (Resource Recovery of *Agricultural Waste*), which may increase soil organic matter and hence carbon sequestered on soil.

Conformance Evidence Examples: A description and/or in-field demonstration of *agricultural BMPs* that *minimise* GHG emissions and/or sequester GHGs, which may be supported by evidence such as: crop/pasture consultant recommendations; no-till, *conservation* tillage, or other cropping practices; soil *conservation* practices; precision agriculture practices; crop/pasture rotations; livestock management; and efficient management and application of nutrients (*fertilisers* and otherwise) and *agricultural chemicals*.

Indicator 5.3.2 *Climate Change* Adaptation and Resilience: Application of *climate-smart agricultural best management practices* to adapt to *climate change* impacts and enhance farm or management unit resilience where *appropriate*. Examples could include, but are not limited to, the use of heat-resistant *crop/pasture* varieties, new *crop/fodder* species, practices that improve soil moisture retention and soil drainage, training on management of new *crop/pasture pests* or *livestock diseases*, provision of additional shade/shelter for livestock, and increased security of livestock drinking water system.

Guidance: *Climate-smart agricultural practices* promote sustainable increases in crop/pasture productivity (including sustainable intensification) while adapting to *climate change*. Crop and pasture productivity is greatly impacted by weather and is *vulnerable* to *climate change*. Key solutions focus on building resilience by improving *soil health* and management of water going on and coming off *cropland* and *farmland*. Conformance evidence for five other Indicators may be applicable to this Indicator: Indicator 2.1.1 (Soil Quality) may enhance *soil health* and weather resilience; Indicator 3.1.3 (Water Conservation) may enhance irrigation in drought years; and Indicators 2.2.1 (*Cropland* Soil Management), 2.2.2 (Pastureland Soil Management), and 3.2.2 (*Water Quality Protection*) aim to control *soil erosion* and *runoff*, which could impact *soil health* and *water quality*.

Conformance Evidence Examples: A description and/ or in-field demonstration of *climate-smart agricultural BMPs*, which may be supported by evidence such as: *soil health* and water management practices; employee awareness about potential *climate change* impacts on regional agriculture; and *crop* insurance.

Indicator 5.3.3 Preparedness for Severe Climate and Weather Events: Application of *climate-smart regional agricultural best management practices* to prepare for and mitigate the impact of severe climate and weather events on agricultural operations, including *animal welfare*.

Guidance: In Australia, extreme events are becoming more common with droughts, bushfires, and floods increasing in frequency and severity. These can impact not only productivity but also animal health and well-being.

Conformance evidence for five other Indicators may be applicable to this Indicator: Indicator 2.1.1 (Soil Quality) may enhance *soil health* and weather resilience as increasing soil carbon and ground cover aids in moisture retention and soil stability; Indicator 3.1.3 (Water Conservation) may enhance irrigation in drought years; and Indicators 2.2.1 (Cropland Soil Management), 2.2.3 (Pastureland Soil Management), and 3.2.2 (Water Quality Protection) aim to control *soil erosion* and *runoff*, which could impact *soil health* and *water quality* in the case of prolonged droughts or extreme rainfall events.

Conformance Evidence Examples: A description and/or in-field demonstration of *agricultural BMPs* that improve climate resilience. Emergency action plans, strategic plans reviewing enterprise mixes, or drought preparedness plans are able to describe actions to mitigate climate *risks*. Plans should also consider animal well-being during extreme events such as extreme heat, extreme cold, or bushfires. Climate forecasting tools may also be used in strategic, tactical, or operational planning.

Objective 6. Waste and Material Management

To manage waste, *agricultural chemicals*, and other materials from agricultural operations to *minimise* their adverse impacts to agriculture and the environment.

Background: Waste and material management is one of the more minor sustainability issues on most farms because farmers primarily generate *agricultural products* and try to *minimise* waste. Nevertheless, waste management on farms has an important sustainability role because it can reduce farming and waste disposal costs, improve crop/pasture productivity, reduce impacts on human and environmental health, and reduce the environmental footprint of *agricultural products*, which is important to *supply chains*. Livestock operations have an additional waste consideration in the form of manure or *effluent* that is produced in sometimes high levels, particularly at infrastructure points.

Performance Measure 6.1 Management of Waste and Other Materials: *Standard Users* shall *minimise solid waste* and *hazardous waste* from agricultural operations and manage waste and *agricultural chemicals* in compliance with applicable laws, statutes regulations, and best management practices and programs.

Indicator 6.1.1 Waste Disposal: A *process* for properly handling and disposing of hazardous and *solid waste*.

Guidance: The amount of *hazardous waste* in Australia is climbing each year. *Hazardous waste*, which can be liquid, solid, gas or sludge, is waste that is dangerous or potentially harmful to human and environmental health. It may include large volumes of discarded products, like unused *crop and pasture protectants*. Its improper disposal can make cropland or pastureland unsafe for growing feed or food. Proper waste handling by *Standard Users* can prevent costly regulatory actions and negative effects on social licence to operate and human and environmental health.

This Indicator requires that *Standard Users* have a set of informal or formal routines for properly handling and disposing of hazardous and *solid waste*. Elsewhere in

the LH Australia Farmland Management Standard – *Pasture* and Livestock Est. 2023, *Standard Users* are also expected to achieve legal compliance concerning the handling and disposal of hazardous and *solid waste*. Conformance evidence for other Indicators may be applicable to this Indicator: Indicators 4.2.2. (Application and Storage of *Plant Protectants*), 6.1.3 (Management of *Agricultural Chemicals* and Other Materials), and 9.4.1 (Public Health and Safety) also address safe handling of certain waste categories; Indicator 10.3.3 (Employee Sustainability Training) also addresses relevant safety and handling training; and Indicators 11.1.2 (Standard User Compliance *Program*) and 11.2.1 (Written Compliance *Policy*) also address legal compliance assurance, which includes compliance for waste laws and regulations.

Conformance Evidence Examples: A description and/or written documentation of formal or informal routines for properly handling and disposing of hazardous and *solid waste*, which may be supported by evidence such as: in-field demonstration of *appropriate* waste management and storage of waste; vendor agreements and field practices for waste management; crop or pasture consultant recommendations for managing leftover pesticide; farm employee training; and credentials of farmer(s), farm manager(s), and/or crop/pasture consultant(s).

Indicator 6.1.2 Resource Recovery: A process for properly handling waste to be reused, repurposed, recycled, or converted to energy, where *appropriate*.

Guidance: Resource recovery is using waste as material to create valuable products and reduce waste. About 60 per cent of waste in Australia is repurposed, reused, or recycled. In agriculture, this can include plastic films and containers; metal from equipment, old buildings, and trellises; wood from old buildings and trellises, and manure or *effluent* from dairies or piggeries. Resource recovery can reduce costs and the environmental footprint of materials used in farming. It may not always be cost-effective or appropriate in regions lacking waste recovery facilities.

Conformance Evidence Examples: A description and/or infield demonstration of a set of informal or formal practices or routines to reuse, reduce, repurpose, or recycle waste or convert it to energy, which may be supported by evidence such as: vendor contractual agreements and field practices for properly storing waste for reuse, repurpose, recycling, or conversion to energy; invoices demonstrating bulk purchases of inputs that reduce packaging; vendor recommendations for resource recovery.

Indicator 6.1.3 Management of Agricultural Chemicals and Other Materials: Management, use, and storage of *agricultural chemicals*, *animal health products*, and equipment gases, fluids, and fuels according to regulatory requirements and application of practices to manage spills and protect employees, farm labour, and the environment.

Guidance: *Agricultural chemicals*, *animal health products*, and equipment gases, fluids, and fuels are the most common hazardous materials in agriculture. *Agricultural chemicals* include *fertilisers*, liming and acidifying agents, road dust stabilisers, *crop and pasture protectants* (including insecticides, herbicides, fungicides and nematicides), and other inputs used to support agriculture. *Animal health products* include pharmaceutical, immunobiological, and complementary products that can be administered to the animal, internally or externally, to manage a specific disease, condition, or circumstance. For example, drench, vaccines, topical creams, and medications. Their proper management can help prevent costly regulatory actions and impacts on people and the environment. Conformance evidence for other Indicators may be applicable to this Indicator: Indicators 4.2.2 (Application and Storage of Crop Protectants), 6.1.3 (Management of *Agricultural Chemicals* and Other Materials), and 9.4.1 (Public Health and Safety) address the safe handling of *agricultural chemicals*; Indicators 10.2.1 (Personnel and Contract Worker Training) and 10.3.3 (Employee Sustainability Training) address relevant safety and handling training for *agricultural chemicals*; and Indicators 11.1.2 (Standard User Compliance *Program*) and 11.2.1 (Written Compliance *Policy*) address legal compliance assurance, which may include compliance with regulations for *agricultural chemicals*.

Conformance Evidence Examples: The in-field demonstration and/or a description of management, use, and storage of *agricultural chemicals*, *animal health products*, and equipment gases, fluids, and fuels, which may be supported by evidence such as: a knowledge of regulatory requirements; a description of standard operating procedures (SOPs) and employee knowledge of SOPs for managing spills; in-field demonstration of *appropriate* spill kits for managing spills; licenced pesticide applicators recommendations for using *crop and pasture protectants*; pesticide applicators' licence held by farmer(s), farm manager(s), and consultant(s); and safety data sheets (SDS) for *crop and pasture protectants* available to employees.

Performance Measure 6.2 Food and Agricultural Waste Resource Recovery: *Standard Users* shall ensure efficient handling and recovery of *agricultural products* and *agricultural waste* and manage dairy *effluent* in line with relevant legislative and guideline requirements.

Indicator 6.2.1 Food and Agricultural Product Waste: Prevention of excessive loss of food *crops* and other *agricultural products* during harvest and on-farm storage.

Guidance: About 20 to 40 per cent of food in Australia is lost before it reaches supermarket shelves. Lost *agricultural products* also increase the environmental impacts per unit of product, which increases the product's environmental footprint. *Supply chain* stakeholders view food waste as a significant contributor to the environmental footprint of agriculture. Farmers can reduce the environmental footprint of *agricultural products* and costs by preventing food waste and *agricultural product* loss on the farm and addressing *supply chain* concerns.

Conformance Evidence Examples: A description of efforts to prevent excessive loss of food crops and other *agricultural products* during harvest and on-farm storage, which may be supported by evidence such as: an annual review of harvest records; informal or formal SOPs for crop harvesting and storage; routine calibration of harvest equipment to *minimise crop* loss; sanitation of harvest and storage equipment to avoid mould and vermin; effective harvest logistics; [crop] loss monitoring; harvest equipment loss checks when starting a new field or block; and weather review and crop inspection to ensure optimal timing of harvest to *minimise* losses.

Indicator 6.2.2 Resource Recovery of *Agricultural Waste*: Reuse, repurpose, and/or recycle product or *crop residues*, *effluent*, manure, other *agricultural wastes* and/or agricultural inputs (e.g., tailwater recovery) where *appropriate*, such as the integration of cropping and livestock systems.

Guidance: *Agricultural waste* is *solid waste* that is generated by the rearing of animals (e.g., manure) or the production and harvest of *agricultural products* (e.g., *crop residues*). It can be used to improve *soil health* and *soil productivity* by increasing soil organic matter and nutrients; controlling *soil erosion*; and improving soil moisture retention, structure, *biodiversity*, water filtration, and water retention. Recovery of these materials can also reduce *fertiliser* expenses but may not be cost-effective for all cropping and/or livestock systems. The conformance evidence for Indicators 2.1.4 (*Crop Residues*) and 6.2.3 (Responsible and Efficient Management of *Effluent*) may be applicable to this Indicator.

Conformance Evidence Examples: A description and/or in-field demonstration of reusing, repurposing, and/or recycling of product or *crop residues*, *effluent*, manure, other *agricultural wastes*, and/or agricultural inputs, which may be supported by evidence such as: *crop/pasture* consultant recommendations that consider reusing, repurposing, and/ or recycling of *agricultural wastes* and/or agricultural inputs; *nutrient management* plans; nutrient test results for applied *agricultural waste*; *effluent* management plans; and vendor invoices for application of *agricultural waste*.

Indicator 6.2.3 Responsible and Efficient Management of *Effluent*: Manage *effluent* in line with relevant legislative and guideline requirements, to protect surface and ground waters from impacts of *effluent*, contain *effluent* within the bounds of the property and utilise the nutrient resource appropriately on farm while avoiding environmental nuisance (odour, faecal matter, water impacts) to surrounding amenities and neighbouring lands.

Guidance: *Effluent* produced through livestock production systems including dairies and piggeries can create operational and environmental *risks* to operation if not managed appropriately and in line with the prescribed legislation and guidelines governing its collection, management, and use. This waste can be repurposed and used to improve *soil health* and *soil productivity* by increasing soil organic matter and nutrients; controlling *soil erosion*; and improving soil moisture retention, structure, *biodiversity*, water filtration, and water retention. Recovery of these materials can also reduce *fertiliser* expenses but may not be cost effective for all systems. The conformance evidence for six Indicators including but not limited to Indicators 2.1.2 (Soil Health Monitoring), 2.1.3 (*Nutrient Management Program*), 2.1.5 (Effluent Application), 3.2.1 (Input Application on *Agricultural Lands*), 3.2.2 (*Water Quality Protection*), and 5.2.3 (Odour management) may be applicable to this Indicator.

Conformance Evidence Examples: A description and/or in-field demonstration of *appropriate* collection, storage and reuse of manure and *effluent* where applicable; which may be supported by evidence such as: *crop/ pasture* consultant recommendations that consider reuse, repurposing, and/or recycling of *effluent*; *nutrient management* plans; nutrient test results for applied *effluent*; *effluent management plans*; and vendor invoices for application of *effluent*.

Objective 7. Conservation of Biodiversity

To manage pasture and *farmland* in a manner that maintains agricultural production while conserving *biodiversity* where *appropriate* or legally required.

Background: Globally, agriculture is considered the largest threat to *biodiversity*, with clearing for livestock production not only relating to traditional clearing but thinning of *forest* and woodland ecosystems as well. Hence many *supply chain* companies seek agricultural trading partners who conserve *biodiversity*. Although this Objective prioritises agricultural production over *biodiversity*, it looks to *Standard Users* to conserve *biodiversity* where *appropriate* or legally required. *Conservation* of *biodiversity* in *agricultural landscapes* focuses on *conservation* of *threatened species*, *conservation* of both natural and managed (e.g. farmed) habitats, avoiding *habitat conversion* to agriculture, and conserving genetic diversity of *crops*.

Performance Measure 7.1 Species Protection: *Standard Users* shall protect threatened and *endangered* species.

Indicator 7.1.1 Threatened Species: *Protection* of *threatened species* when they occur on *enrolled farmland* and management of agricultural operations with consideration of *threatened species* in the local catchments and landscapes of operation.

Guidance: *Threatened species* are one essential part of conserving *biodiversity*. They are plant and animal species identified under either state or national laws as threatened, due to reductions in numbers, distribution, and threats. They can occur in agricultural landscapes. Their *conservation* helps maintain *biodiversity* and avoid *risk* of regulatory actions. At a national level, species may be recorded on the Atlas of Living Australia or state-based databases. These can be accessed by the general public. Conformance evidence for Indicators 7.2.1 (*Native Habitats* and *Natural Communities*) and 7.2.2 (Ecologically Important Sites) may include *protection* of the *habitat* of *threatened species* and so be applicable to this Indicator.

Conformance Evidence Examples: An analysis for presence of *Listed Threatened Species* using Atlas of Living Australia or the Protected Matters Search Tool or state wildlife agency databases; a description of an assessment of listed *threatened species* to determine if any listed *threatened species* are present; a description of policies and practices for managing *listed threatened species* when present; a *listed threatened species* assessment, which can be based on a due diligence assessment before *farmland* acquisition; materials for field staff for identifying and managing for *listed threatened species*; and employee training on *listed threatened species* identification and management.

Indicator 7.1.2 Endangered Species: *Program* to locate and protect known *viable occurrences* of *endangered* species on enrolled *farmland*. A *protection program* may be developed independently or collaboratively and may use easements, *conservation* land sales, exchanges, or other *conservation* strategies.

Guidance: *Conservation* of *endangered* species can prevent local extirpation or increase in listing status to *critically endangered*. *Endangered* species are species with an *endangered* designation by state or national *conservation* agencies. Their designation is carefully reviewed by scientists.

Standard Users need to protect *endangered* species that are recorded from or likely to be found on enrolled *farmland*. Conformance evidence for Indicators 7.2.1 (*Native Habitats* and *Natural Communities*) and 7.2.2 (Ecologically Important Sites) may include *protection* of the habitat of *endangered* species and so be applicable to this Indicator.

Conformance Evidence Examples: An analysis of the presence of populations of *endangered* species using national or state nature *conservation* agency databases; policies and management practices for managing *endangered* species; an *endangered* species assessment, which may be found in due diligence documents created before *farmland* acquisition; materials for field staff for identifying and managing for *endangered* species; and employee training on *endangered* species identification and management.

Performance Measure 7.2 Wildlife Habitat Conservation: *Standard Users* shall conserve *native habitats*, *wildlife* habitats, *natural communities*, and *threatened ecological communities* on enrolled *farmland*.

Indicator 7.2.1 *Native Habitats* and *Natural Communities*: Maintenance or *conservation* of *native habitats* and *natural communities* in areas not used for agricultural production.

Guidance: Loss of *native habitats* and *natural communities* is the chief global threat to *biodiversity*. *Native habitats* are areas where a native species naturally occurs and that have the living and nonliving environmental conditions necessary for survival, including areas for feeding, shelter, *protection*, and/or reproduction. *Natural communities* are an assemblage of interacting plant species and animal species and their common environment, recurring across the landscape, where the effects of human intervention are minimal. Both can serve as essential habitats for common and *rare wildlife* and plant species, including listed threatened and *endangered* species, and allow species

to disperse across landscapes. Conformance evidence for 7.2.2 (Threatened Ecological Communities) and 7.3.1 (Habitat Conversion) may be applicable to this Indicator.

Conformance Evidence Examples: An assessment of *native habitats*, *natural communities*, and *threatened ecological communities* to determine their presence (this may have occurred during due diligence conducted before *farmland* acquisition); a description of policies and practices for managing *native habitats*, *natural communities*, and *threatened ecological communities*; and materials and training for field staff for identifying and managing for *native habitats*, *natural communities*, and *threatened ecological communities*.

Indicator 7.2.2 *Threatened ecological communities*: Participation individually or collaboratively in plans or *programs* that manage *threatened ecological communities* in a manner that takes into account their unique qualities.

Guidance: *Threatened ecological communities* are naturally occurring groups of native plants, animals, and other organisms that are interacting in a unique habitat. Types of *ecological communities* listed under national or state environmental law include *woodlands*, *grasslands*, shrublands, *forests*, *wetlands*, marine, ground springs, and cave communities. Conserving these sites can prevent the loss of *rare* species and *biodiversity*. *Standard Users* may develop their own plans or *programs* or collaborate with others. Managing *threatened ecological communities appropriate* to their unique qualities requires the *protection* of these communities. Conformance evidence for Indicators 7.2.1 (*Native Habitats* and *Natural Communities*) and 7.3.1 (*Habitat Conversion*) may be applicable to this Indicator.

Conformance Evidence Examples: A description of plans or programs for *managing threatened ecological communities*, including management practices, which may be supported by evidence such as: plans for managing threatened ecological communities; materials and training for field staff for identifying and managing *threatened ecological communities*; certifications or degrees of contractors who developed plans or programs.

Indicator 7.2.3 Cropland for Wildlife Habitat: Application of *agricultural best management practices* on *cropland* to create temporary *wildlife* habitat where *appropriate.* Examples could include, but are not limited to, no-till practices, *cover cropping*, adding *soil amendments* made up of organic matter, bird boxes, *soil erosion* control structures (e.g., grassed waterways), delayed slashing, intercropping, seeding areas with native *grassland* seed mixes, tailwater recovery ponds managed as *wetlands*, and water level management of rice fields for waterbirds.

Guidance: Agriculture has the most widespread impact on *wildlife habitat* of any activity in Australia. Many *agricultural best management practices* for *cropland* (e.g., no-till, structural practices to control *soil erosion*) can be used to create temporary habitats for mammals, birds, and soil organisms and protect aquatic habitats. These practices can contribute to conserving *biodiversity* in agricultural landscapes. Conformance evidence for Indicators 2.1.1 (Soil Quality), 2.1.4 (*Crop Residues*), and 3.2.2 (*Water Quality*) may be applicable to this Indicator when it creates temporary *wildlife habitat*.

Conformance Evidence Examples: A description or in-field demonstration of the application of *agricultural BMPs* on *cropland* used to create temporary *wildlife* habitat, which may be supported by evidence such as: reports and/or SOPs describing the application of *agricultural BMPs* on *cropland* used to create temporary *wildlife* habitat; and vendor invoices for applying specific practices (e.g., *cover cropping*).

Indicator 7.2.4 Grazing Land for Wildlife Habitat: Application of *best management practices* on *grazing land* to maintain and enhance *wildlife habitat* where *appropriate*. Examples could include, but are not limited to, *appropriate* stocking rates, *appropriate* fire/grazing regimes, *protection* of *wetlands*, *riparian* management.

Guidance: Agriculture has the most widespread impact on *wildlife* habitat of any activity in Australia. Many *agricultural best management practices* for grazing land (e.g., appropriate stocking rates and grazing rotations and *riparian zone* management) can be utilised to benefit habitats for mammals, birds, and soil organisms and protect aquatic habitats. These practices can contribute to conserving *biodiversity* in *agricultural landscapes*. Conformance evidence for Indicators 2.1.1 (Soil Quality), 3.2.2 (Water Quality) and 3.2.3 (Water Quality Protection from Livestock) may be applicable to this Indicator when it benefits *wildlife habitat*.

Conformance Evidence Examples: A description or in-field demonstration of the application of *agricultural BMPs* on pastureland used to benefit *wildlife habitat*, which may be supported by evidence such as: reports and/or SOPs describing the application of *agricultural BMPs* on pastureland used to benefit *wildlife habitat*; paddock records of grazing history and stocking rates; and vendor invoices for applying specific practices (e.g., fencing of waterways).

Performance Measure 7.3 Avoided Conversion: *Standard Users* shall avoid the conversion of *natural forests* and *threatened ecological communities*.

Indicator 7.3.1 Habitat Conversion: Demonstration of commitment to avoid the *land use conversion* and *fragmentation* of *threatened ecological communities* on enrolled *farmland*.

Guidance: *Habitat* loss through conversion is the greatest threat to *biodiversity* in Australia. Avoiding *land use conversion* helps maintain regional *biodiversity*.

Conformance Evidence Examples: A description of commitment to avoid the *land use conversion* and fragmentation of *threatened ecological communities*, which may be supported by evidence such as: in-field demonstration of conserved *threatened ecological communities*; aerial imagery demonstrating the extent of *threatened ecological communities*; employee training about *habitat conversion* commitment; a *habitat conversion policy*; management plans for conserved *threatened ecological communities*; and conserved *threatened ecological communities* identified on maps and/or GIS layers.

Indicator 7.3.2 *Deforestation*: Demonstration of commitment to prevent *deforestation* of *natural forest* when farming where biome-specific or geography-specific *deforestation* protocol(s) are in place, by:

> **Indicator 7.3.2a:** A written *policy* to demonstrate the Standard User's commitment to a *zero deforestation policy* that identifies the regions of application, relevant *natural forest* types, *appropriate deforestation cut-off date(s)* in areas with biome-specific or geography-specific *deforestation* protocols (where no appropriate *cut-off dates* exist, *Standard User* shall identify their own), and (see continuation with Indicator 7.3.2b).

Guidance: Globally, *deforestation* to create *cropland* and pastureland is a huge threat to climate and *biodiversity*. *Deforestation* protocols in Australia vary from state to state. Hence there is not an agreed national *cutoff date* for cessation of clearing activities across the country, and different state-based legislation applies to land clearing in different jurisdictions. A written zero *deforestation policy* should identify the regions of application, relevant *natural forest* types, and *appropriate deforestation* cut-off date(s) in areas with *deforestation* protocols. *Standard Users* may elect to have a simple zero *deforestation policy* without a *cutoff date* unless otherwise determined by state *deforestation* protocols, but which identifies the application region and relevant *natural forest* types. If selecting their own *cutoff date*, "*appropriate*" means that the *Standard User* can substantiate their selected *cutoff date* with evidence that is justifiable.

Conformance Evidence Examples: A written *policy* to demonstrate the Standard User's commitment to a *zero deforestation policy* that addresses the regions of application, relevant *natural forest* types, and *appropriate deforestation* cut-off date(s) in areas with state *deforestation* protocols; and training to ensure *appropriate* employees understand written *zero deforestation policy*.

> **Indicator 7.3.2b:** Demonstration of due diligence to prevent the acquisition of *farmland* that was converted from *natural forest* after an *appropriate deforestation cutoff date*(s) identified by the *Standard User* in areas with biome-specific or geography-specific *deforestation* protocols.

Guidance: This Indicator ensures that *Standard Users* avoid purchasing *farmland* that was converted from *natural forest* after an *appropriate deforestation cutoff date*. A *cutoff date* is to greatly reduce the incentive for current landowners to participate in *deforestation* to create *cropland* and pasture*land*. *Deforestation* protocols in Australia vary from state to state. Hence there is not an agreed national *cutoff date* for cessation of clearing activities across the country, and different state-based legislation applies to land clearing in different jurisdictions. Unless there are *cutoff dates* determined by state *deforestation* protocols, which identify the application region and relevant *natural forest* types, the *Standard User* should determine their own *appropriate cutoff date* for *deforestation* prior to acquisition. "*Appropriate*" means that the *Standard User* can substantiate their selected *cutoff date* with evidence that is justifiable.

Conformance Evidence Examples: A description of due diligence to prevent acquisition of *farmland* converted from *natural forest* after a *cutoff date*; due diligence standard operating procedure (SOP) to prevent acquisition of *farmland* converted from *natural forest* after a *cutoff date*; and examples of due diligence before acquisition reports.

Performance Measure 7.4 Crop and Pasture Diversity: Support *crop* and *pasture* diversity on *farmland*.

> **Indicator 7.4.1 Crop and Pasture Diversity:** Use of a variety of *crop* and *pasture* species, *crop* and *pasture* varieties, companion *crops* (e.g., cover *crops*, cross-pollination donors), and/or crop/pasture rotation where *appropriate*.

Guidance: *Crop* and *pasture* diversity can help control weeds and *pests*, improve *soil health*, and improve productivity. It may be achieved by rotating *crops* and *pastures*, planting different varieties or hybrids in adjacent blocks or over time, *cover cropping*, and using cross pollination donors. Loss of *crop* and *pasture* diversity can increase regional *crop* and *pasture* susceptibility to

infectious *pests* and diseases. By incorporating *crop* and *pasture* diversity into farming, *Standard Users* contribute to the sustainability of regional agriculture.

Conformance Evidence Examples: A description of a variety of *crop* and *pasture* species, *crop* and *pasture* varieties, companion *crops* (e.g., cover *crops*, cross-pollination donors), and/or *crop* and *pasture* rotation; maps, GIS layers, and/or annual reports of *crop* and *pasture* varieties planted; and a description of management and selection of *crop* and *pasture* species, *crop* and *pasture* varieties, companion *crops* (e.g., cover *crops*, cross-pollination donors), and/or *crop* rotation in row *crops*/orchard interrow areas or the replanting of naturally low lying swampy areas.

Objective 8. Protection of Special Sites

To manage *Special Sites* on *pasture* and *farmland* that are geologically or culturally important in a manner that recognises and respects their unique qualities.

Background: *Special Sites* include unique geological or culturally important features that are recognised regionally or nationally or by *Indigenous Peoples*. They have valuable information about geology or culture and history that explains human history. Their loss can mean the destruction of irreplaceable information and areas of cultural significance and undermine the social dimension of sustainability. *Conservation* of *Special Sites* helps build local support and social licence to operate.

Performance Measure 8.1 Special Site Management: *Standard Users* shall manage *Special Sites* in a manner *appropriate* for their unique qualities.

Indicator 8.1.1 Special Site Identification: Use of information such as existing heritage databases (Commonwealth and state/territory) or expert advice in identifying or selecting *Special Sites*.

Guidance: *Special Sites* are typically cemeteries, Indigenous sites, archaeological sites (post-European settlement sites), and unusual geological features (e.g., remarkable waterfalls, cliffs). They occur infrequently on *farmland* in Australia, depending on the region. This Indicator helps ensure the use of *appropriate* information when identifying *Special Sites*.

Conformance Evidence Examples: Examples where information from existing natural heritage data or recognised experts has been used to identify *Special Sites*; communications with experts regarding information for identifying *Special Sites*; *Special Sites* identification *policy*; and due diligence title search information, which identifies whether *Special Sites* occur on the Standard User's *farmland*.

Indicator 8.1.2 Special Site Management: *Appropriate* mapping, cataloguing, and management of identified *Special Sites* in a manner that recognises their unique qualities.

Guidance: *Special Sites* are sites filled with valuable information about geology or culture and history that explain human history. Damage or destruction of these sites can mean the loss of irreplaceable information. It can also lead to the loss of areas of cultural significance to all people, including *Indigenous Peoples*. This Indicator helps ensure use of *appropriate* mapping, cataloguing, and management of identified Species Sites so the unique qualities of *Special Sites* are maintained.

Conformance Evidence Examples: Map and catalogue of *Special Sites*; a description of how *Special Sites* are managed; communications with experts regarding management of *Special Sites*; *Special Sites* management *policy*; employee training regarding management of *Special Sites*; and GIS data layers identifying *Special Sites* and their management practices.

Objective 9. Local Communities

To operate safely and responsibly; contribute to the economic well-being, social networks, and health of local communities; and recognise and respect the rights of local communities and *Indigenous Peoples* in regions of agricultural operations.

Background: Societal considerations for agriculture include its impacts on social and economic well-being, public health, and social law including legal obligations to local communities and *Indigenous Peoples*. Agriculture has key positive impacts in many rural areas of Australia, contributing to the economic and social well-being of local communities, especially where agriculture is a large part of the rural economy. Local communities and *Indigenous Peoples* also may have legal rights in many rural areas. *Indigenous Peoples* are defined in international or national legislation as having a set of specific rights based on their historical ties to a particular territory. In Australia, there are two distinct Indigenous cultural groups: Aboriginal and Torres Strait Islander Peoples. This *Objective* recognises that rural communities are the mainstay of Australian agriculture. It helps ensure that *Standard Users* contribute to the well-being of local communities in rural *agricultural landscapes* and operate with social responsibility.

Performance Measure 9.1 Economic Well-Being: *Standard Users* shall foster the economic vitality of local communities through business practices that support sustainable agriculture and the local economy.

Indicator 9.1.1 Economic Contributions: Payment of federal, state, and local taxes and, as *appropriate*, employment of staff from local communities and local procurement of supplies and services.

Guidance: Farming employs approximately 2.5 per cent of the Australian workforce, with 82 per cent of workers living regionally. It has a greater economic multiplier effect on rural economies than other sectors because of its contributions to local employment, tax payments, and local procurement.

Farming helps sustain rural economies and fosters local support for agriculture. *Standard Users* may employ non-local workers and purchase non-local services and materials when *appropriate*.

Conformance Evidence Examples: A description of payment of taxes; copies of tax invoices, records, or forms; a description and/or documents indicating local employment and procurement; employment records; local vendor invoices; and employment of summer interns from regional agricultural universities.

Performance Measure 9.2 Community Relations: *Standard Users* shall engage local communities to increase community awareness and support for the practice of sustainable agriculture and maintain or enhance *Standard User* reputation.

Indicator 9.2.1 Community Engagement: Engagement in positive relationships with neighbours and local communities thus raising the awareness of sustainable agriculture.

Guidance: Neighbour and community engagement can be essential to generate local support for sustainable agriculture and maintain relationships and reduce conflicts. Neighbours and local communities can also be engaged to help maintain local support for sustainable agriculture and a social licence to operate. *Standard Users* can apply engagement activities best suited for each operation.

Conformance evidence for Indicator 9.3.3 (Local Communities' and *Indigenous Peoples*' Inquiries) may be applicable to this Indicator (e.g., annual newsletters with contact information).

Conformance Evidence Examples: A description and/ or in-field demonstration of engagement activities with local communities, which may be supported by: leadership roles filled by farmer(s), farm manager(s), and/ or employee(s) in local agriculture-related organisations and local government; farm signage; hosting of agriculture meetings, workshops, and/or presentations for neighbouring farm managers and/or community members; in-kind or financial support for agricultural fairs, secondary vocational *programs*, agricultural scholarships, etc.; participation in regional planning efforts related to agriculture; phone lists of key local community contacts; and a newsletter for neighbours.

Performance Measure 9.3 Local Communities and *Indigenous Peoples*: *Standard Users* shall recognise and respect the rights of local communities and *Indigenous Peoples*.

Indicator 9.3.1 Local Community and *Indigenous Peoples* Policy: A written *policy* demonstrating a commitment to recognise and respect the rights of local communities and *Indigenous Peoples*.

Guidance: Respect for local community is essential for supporting the social dimension of agricultural sustainability and achieving legal compliance. These rights vary among state and/or local government jurisdictions. Local communities may have rights concerning public health and safety, land use, *water quality*, *soil erosion*, invasive species, and *wildlife*. Land rights of *Indigenous Peoples* also vary depending on *Indigenous Peoples*' local group(s) and are often identified during due diligence of title searches when land is purchased. Land rights may include access to *Special Sites*, and water, hunting, fishing, wild food procurement, and other land access rights. A written *policy* can be a simple statement making a commitment to respect the rights of local communities and *Indigenous Peoples*. It can be shared with employees and stakeholders.

Conformance evidence for Indicators 9.4.1 (Public Health and Safety) and 9.3.2 (Land Tenure Rights of Local Communities and *Indigenous Peoples*) may be applicable to this Indicator when it addresses local public health and safety requirements and reveals community and *land rights* during acquisition due diligence.

Conformance Evidence Examples: A written *policy* demonstrating a commitment to recognise and respect the rights of local communities and *Indigenous Peoples*, which may be supported by evidence such as: a way to ensure staff understand the written *policy* and are able to implement the written *policy* of the Standard User; on-board training regarding written *policy* on rights of local communities and *Indigenous Peoples*; employee training attendance sheet; a description of informal and formal supporting policies and/ or practices used by the *Standard User* to conform to written *policy*; and internal communications.

Indicator 9.3.2 Land Tenure Rights of Local Communities and Indigenous Peoples: Demonstration of due diligence to prevent infringing on the land tenure rights of local communities and *Indigenous Peoples* when purchasing and managing land.

Guidance: Respect for land tenure rights of local communities and *Indigenous Peoples* begins by first understanding existing rights. *Indigenous Peoples* in Australia include two distinct Indigenous cultural groups: Aboriginal and Torres Strait Islander Peoples. Land rights of *Indigenous Peoples* vary depending on local jurisdiction and group(s). These rights are often revealed in due diligence during *farmland* acquisition. Land rights may include access to *Special Sites* and water, hunting, fishing, wild food procurement, and other land access rights. Respect for the land tenure rights of local communities and *Indigenous Peoples* supports the right to self-determination and legal compliance and helps maintain social licence to operate. This Indicator principally applies when a *Standard User* is purchasing *farmland*, but it also applies to management of *farmland* that was acquired before participation in the LH Australia Farmland Management Standard Est. 2023. Conformance evidence to Indicator 9.3.1 (Local Community and *Indigenous Peoples Policy*) may be applicable to this Indicator.

Conformance Evidence Examples: A description and/or documentation of due diligence regarding tenure rights of local communities and *Indigenous Peoples* when purchasing and managing land; on-board training regarding land tenure rights of local communities and *Indigenous Peoples*; and due diligence guidelines or SOP for reviewing land tenure rights of local communities and *Indigenous Peoples*.

Indicator 9.3.3 Local Communities' and *Indigenous Peoples'* Inquiries: Demonstration of commitment to be receptive to local communities' and *Indigenous Peoples*' inquiries and concerns.

Guidance: Being receptive to inquiries and concerns is important to ensuring effective communication and relationships with key stakeholders and is necessary for maintaining a social licence to operate. Responses need not include remedies that satisfy every inquiry or concern. Conformance evidence for Indicator 9.2.1 (Community Engagement) may be applicable to this Indicator when it describes community engagement activities that demonstrate receptivity to local concerns. Conformance evidence for Indicators 9.2.1 (Community Engagement),9.3.1 (Local Community and *Indigenous Peoples Policy*), and 9.3.2 (Land Tenure Rights of Local Communities and *Indigenous Peoples*) may be applicable to this Indicator when it demonstrates receptivity to inquiries and concerns.

Conformance Evidence Examples: Farm signage with contact information; periodic listening sessions with stakeholders from local community and *Indigenous Peoples*; online anonymous suggestion box; records of inquiries from local community or *Indigenous Peoples* and Standard User's response; submission of news articles in local newspapers about sustainable agriculture and contact information for inquires; providing contact information to neighbours and leaders in local communities and *Indigenous Peoples* communities; employee training for managing inquires; and public inquiry *policy*.

Performance Measure 9.4 Public Health: *Standard Users* shall apply measures to protect public health from adverse impacts of enrolled *farmland*.

Indicator 9.4.1 Public Health and Safety: Application of health and safety *agricultural best management practices* that protect public health from adverse impacts of *agricultural chemicals*, excessive nutrients, equipment gases, fluids, and fuels, and air pollution and that train employees to operate equipment safely.

Guidance: The largest concern of local communities for agriculture is health and safety impacts. Protecting public health and safety helps protect human and environmental health, maintaining a social licence to operate and public support for agriculture. Conformance evidence for five other Indicators may yield conformance evidence for this Indicator: Indicators 4.2.1 (Application and Storage of *Plant Protectants*), 6.1.3 (Management of *Agricultural Chemicals* and Other Materials), and 6.2.3 (Responsible and Efficient Management of *Effluent*) may provide relevant evidence where *agricultural BMPs* are applied to protect human and environmental health from *crop and pasture protectants*, other *agricultural chemicals* and *animal health products*; Indicators 10.2.1 (Personnel and Contract Worker Training) and 10.3.3 (Employee Sustainability Training) may provide evidence of employee safety BMP training for this Indicator. *Standard Users* are expected to comply with applicable laws, statutes, and regulations concerning the management of *effluent* and the handling and use of *agricultural chemicals*, *animal health products*, and equipment gases, fluids, fuels, and wastes.

Conformance Evidence Examples: A description and/or in-field demonstration of the application of health and safety *agricultural BMPs*, which may be supported by evidence such as: employees training to operate equipment safely; farm public health *policy*; licenced pesticide applicators' recommendations for applying *crop and pasture protectants*; pesticide applicators' licence held by farmer(s), farm manager(s), pesticide consultant(s); safety data sheets (SDS) for *crop and pasture protectants* available to employees and where materials are stored; a description of management, use, and storage of *agricultural chemicals*, *animal health products* and equipment gases, fluids, and fuels; *effluent* management plans; a description of knowledge of regulatory requirements; a description of standard

operating procedures (SOPs) and employee knowledge of SOPs for managing spills and protecting employees, farm labour, and the environment; and in-field demonstration of *appropriate* materials and supplies necessary to manage spills and protect employees and the environment.

Objective 10. Personnel and Farm Labour

To provide a safe and healthy working environment, fair compensation, and training for *Standard User* personnel, *contract management company* employees, and *contract farm labour* necessary to improve the practice of sustainable agriculture.

Background: Agriculture presents a challenging work environment because it relies on employees to work independently and in teams in a dynamic yet casual environment with unique human health *risks*. It requires that farmers and farm managers always work toward creating a safe and respectful working environment and provide quality supervision and training to foster the routines, talent, and teamwork necessary to achieve business *objectives* and long-term viability and sustainability.

Performance Measure 10.1 Safe and Respectful Working Environment: *Standard Users* shall foster a culture of safety and respect among *Standard User* personnel and *contract management company* employees to *minimise* injuries, help establish safe routines, and enhance employee productivity.

Indicator 10.1.1 *Equal Opportunity Employment*: Provision for *equal opportunity employee* recruitment and occupations.

Guidance: Equal opportunity environments can help attract qualified talent, comply with state and federal laws, and have a fair and effective workplace culture.

Workplace fairness is essential to ensuring that talented employees advance and contribute to business performance and sustainability. Women and culturally and linguistically diverse (CALD) (including Indigenous) employees are greatly under-represented in Australian agriculture. Barriers include discrimination, lack of training opportunities, pipeline barriers in the sciences, and lack of child care. Conformance evidence for Indicator 10.1.2 (Respectful Work Environment) may be applicable to this Indicator.

Conformance Evidence Example: A description of equal-opportunity, informal or informal policies and activities to achieve *equal opportunity employee* recruitment and occupations; confidential employee interviews; employee recruitment *programs* targeting women and minorities; hiring of women and minority interns; equal opportunity training for hiring staff; and development of a respectful work culture.

Indicator 10.1.2 Respectful Work Environment: Maintain a safe, *gender-equitable*, and *professional work environment*.

Guidance: Working in the dynamic and casual environment of agriculture can make it challenging to establish an effective professional environment without being rigid. Women and CALD employees are greatly under-represented in Australian agriculture. A *gender-equitable*, professional working environment fosters high morale, a consideration of diverse perspectives, increased collaboration, and business and professional growth for everyone, and contributes to greater productivity and sustainability. Conformance with six Indicators may yield conformance evidence for this Indicator: Indicator 10.1.1 (*Equal Opportunity Employment*) may yield evidence that addresses recruitment and hiring employees to help achieve gender equity; Indicator 10.2.1 (Personnel and Contract Worker Training) may yield evidence such as employee training to help achieve a safe, *gender-equitable*, and *professional work environment*; Indicators 11.1.1 (Access to Compliance Information), 11.1.2 (*Program* User Compliance *Program*), and 11.1.3 (Compliance Commitment) may yield evidence that could include Federal, state, and/or local workplace equity compliance information; and Indicator 12.1.1 (Performance Review) may yield evidence such as employee coaching or responsiveness to workplace concern of employees.

Conformance Evidence Example: A description and/or in-field demonstration of the application of health and safety *agricultural BMPs*; confidential employee interviews regarding workplace professionalism; signage as required by law to inform employees of labour rights; on-board training of new employees about safe, respectful, and *gender-equitable* workplace requirements; leadership, managerial, and other professional development training opportunities for employees; employee handbook that indicates expectations for workplace behaviour; attendance records for professional meetings; safety reports; safety KPIs; and performance reviews that review work safety expectations and outcomes.

Performance Measure 10.2 Occupational Training: *Standard Users* shall provide training for *Standard User* personnel and ensure adequate training for *contract management company* employees necessary to improve the knowledge and practice of sustainable agriculture and low-stress animal handling.

Indicator 10.2.1 Personnel and Contract Worker Training: Workplace health and safety education and training for *Standard User* personnel and *contract management company* employees.

Guidance: Farming is one of the most dangerous occupations in Australia, leading to a workplace setting that is highly regulated by federal and state laws. Health, safety, and *occupational* employee training plays a key role in avoiding costly workplace injuries and costly regulatory actions and improving employee knowledge to advance sustainable agriculture. This Indicator focuses on employee health, safety, and *occupational* training in regard to personnel safety and safety when working with animals, but overlaps and potentially shares conformance evidence with Indicator 10.3.3 (Employee Sustainability Training), which focuses on agricultural sustainability training sufficient to fulfil their roles and responsibilities under the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

Conformance Evidence Example: A description of health, safety, and *occupational* education and training of employees, which may be supported by: confidential employee interviews; in-field observations of employees applying health, safety, and *occupational* education and training; examples of in-house training materials; and training certificates and/or diplomas.

Performance Measure 10.3 Supporting Capacity for Sustainability: *Standard Users* shall require *appropriate* training of *Standard User* personnel and *contract management company* employees so that they are competent to fulfill their responsibilities under the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

Indicator 10.3.1 Sustainability Policy Commitment: *Standard Users* shall provide a written *policy* demonstrating commitment to the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 that is communicated throughout the organisation, particularly to facility and farm managers.

Guidance: The commitment statement provides clear direction to employees and helps ensure consistent execution of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. It also communicates to *supply chain* companies and other stakeholders how the *Standard Users* are committed to sustainability, which can also help maintain a social licence to operate. Conformance evidence for Indicators 1.1.1 (Farmland Stewardship Commitment) and (where applicable) 13.1.2 (Farmland Lease Agreements) may be applicable to this Indicator.

Conformance Evidence Example: A written *policy* describing the Standard User's commitment to the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, which may be supported by evidence such as: a description of *policy* communication to employees; confidential employee interviews; on-board training regarding written commitment to LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023; training attendance records; and a description of policies and/or practices used to ensure staff are able to implement written *policy*.

Indicator 10.3.2 Employee Roles and Responsibilities for Sustainability: Assignment and understanding of roles and responsibilities for achieving the *objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est 2023.

Guidance: The assignment of workplace roles and responsibilities for achieving the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 helps ensure effective communication of expectations and understanding by employees about their roles and key work routines. It also helps ensure that employees are accountable and can work together to achieve the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Objectives. Conformance evidence for two Indicators may be applicable to this Indicator: 10.3.3 (Employee Sustainability Training), which includes employee training for their roles and responsibilities, and 12.1.1 (Performance Review), which provides an accountability mechanism for employees regarding their LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 roles and responsibilities.

Conformance Evidence Examples: A description of employee roles and responsibilities and demonstration that employees understand their role and responsibilities for the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, which is supported by evidence such as: confidential employee interviews; job descriptions or organisation charts that identify LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 roles and responsibilities; periodic (e.g., quarterly, annually) group and individual review of employees on LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 roles and responsibilities; performance reviews that address employee role and responsibilities for the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023; and demonstration of relevant professional training (e.g., college degrees, certifications) to ensure employees can carry out their roles and responsibilities.

Indicator 10.3.3 Employee Sustainability Training: Staff education and training for *Standard User* personnel and *contract management company* employees sufficient to fulfil their roles and responsibilities under the LH Australia Farmland Management Standard – Pasture and

Livestock Est. 2023. Examples could include, but are not limited to, postsecondary degrees and professional certificates, in-house training, continuing education *programs* for managing waste, recycling, plant and animal protectant safety, professional development opportunities, and participation in agriculture-related professional organisations.

Guidance: Employee sustainability training is essential to them being able to fulfil their roles and responsibilities under the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. This Indicator focuses on sustainability training as it relates to the implementation of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 while Indicator 10.2.1 (Personnel and Contract Worker Training) focuses on employee safety, health, and *occupational* training, which may overlap with this Indicator. Hence, conformance evidence for Indicator 10.2.1 (Personnel and Contract Worker Training) may be applicable to this Indicator.

Conformance Evidence Examples: A demonstration of relevant professional training (e.g., post-secondary degrees, professional certifications) to ensure employees can carry out their roles and responsibilities, which may be supported by evidence such as: attendance records for training workshops and certifications; *policy* to provide reimbursement and/or time-off to attend training workshops; performance reviews with professional development *objectives*; and attendance at meetings of professional organisations.

Performance Measure 10.4 Compensation: *Standard Users* shall ensure adequate livelihood for employees and *contract management company* employees to attract and retain a stable workforce.

Indicator 10.4.1 Wages and Pay: Compensation to ensure a *living wage* for *Standard User* personnel and *contract management company* employees.

Guidance: Agricultural wages are modest for entry-level workers and generally average less than that of non-farm wages. Hence, they are a significant concern for *supply chain* stakeholders. A *living wage* is estimated from the cost of living based on typical expenses and supports a minimum standard of living. Realistic wages are necessary to attract skilled employees and ensure a long-term labour supply. The wages of the lowest paid employee can often serve as a key reference point for assessing whether wages meet the criteria for a *living wage*.

Conformance Evidence Examples: A description of wages and/or salaries that demonstrates that employees are receiving a *living wage*, pay stubs, and wage scale documents for low-wage positions.

Performance Measure 10.5 Farm Labour: *Standard Users* shall monitor contract management companies or *farm labour contractors* to help ensure farm labour working conditions consistent with the Principles and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

Indicator 10.5.1 Farm Labour Monitoring Program: A *program* to monitor *farm labour contractors* employed by *Standard Users* or contract management companies to ensure compliance with applicable federal and state labour laws, statutes, and regulations by reviewing policies, practices, and training addressing workplace environment, equal opportunity, workplace health, and safety, and compensation, including *living wage* and, where *appropriate*, housing and transportation.

Guidance: *Farm labour contractors* provide critical services to agriculture. Farm employers are legally required to take reasonable steps to ensure that their *farm labour contractors* have valid registration certificates. Many contracted farm workers are immigrants who don't know their legal rights and this makes them economically and socially vulnerable. Moreover, labour rights are a key component of the social aspect of sustainable agriculture. This Indicator is not applicable to *Standard Users* that do not contract for labour with contract management companies or *farm labour contractors*. Conformance evidence for Indicator 11.1.2 (Program User Compliance Program) may be applicable to this Indicator.

Conformance Evidence Examples: A description and/or in-field demonstration of a monitoring *program* composed of an organised set of activities to address the workplace environment, equal opportunity, worker health, safety, and compensation, including *living wage* and, where appropriate, housing and transportation, which may be supported by evidence such as: *farm labour contractor* contracts; communications about *farm labour contractor* monitoring; and annual or more frequent reviews of *farm labour contractors*.

Objective 11. Legal and Regulatory Compliance

To comply with applicable Commonwealth, state, and local laws, statutes, and regulations.

Background: Agriculture works in a diverse regulatory environment. Legal compliance is fundamental to the credibility of agricultural sustainability and managing legal risk. Farmers and farm managers encounter social, labour, and environmental legal requirements, which are complex and make legal compliance challenging. By meeting their legal obligations, they can protect human well-being and the environment, avoid regulatory actions, and achieve efficient operations and safety, positive public relations, and greater employee retention.

Performance Measure 11.1 Legal Compliance: *Standard Users* shall comply with applicable Commonwealth, state, and local agricultural and related social and environmental laws, statutes, and regulations.

Indicator 11.1.1 Access to Compliance Information: A process by which personnel have access to information of relevant laws, statutes, and regulations in appropriate locations.

Guidance: Knowledge of legal compliance issues is critical to ensuring employees comply with statutes and avoid costly regulatory action. Conformance evidence for two other Indicators may be applicable to this Indicator: Indicator 10.2.1 (Personnel and Contract Worker Training), which may include training to help ensure employees understand relevant legal information; and Indicator 11.2.1 (Written Compliance Policy), which may signal the importance of legal compliance to employees.

Conformance Evidence Examples: A description of a purposeful set of formal or informal practices or routines for providing employee access to *appropriate* legal information, which may be supported by evidence such as: confidential employee interviews to assess their awareness of relevant workplace laws, statutes, and regulations; signage as required by law to inform employees of labour rights, workplace requirements, and safety and environmental regulations; an employee handbook; SDS binders in office and pesticide storage areas; voluntary signage to inform employees about relevant legal requirements; and employee training regarding applicable laws, statutes, and regulations.

Indicator 11.1.2 Standard User Compliance Program: A *program* to achieve compliance with applicable Commonwealth, state, or local laws, statutes, and regulations.

Guidance: Regulatory compliance of a company is necessary to manage regulatory *risk* and achieve a basic level of sustainability. It helps ensure that a farmer or farm manager meets their legal obligations, avoids costly regulatory actions, and focuses on efficient operations, safety, public relations, and employee retention.

Conformance evidence for Indicators 11.1.1 (Access to Compliance Information Indicator), 11.1.3 (Compliance Commitment), and 11.2.1 (Written Compliance Policy) may be applicable to this Indicator when it supports a legal compliance program.

Conformance Evidence Examples: A description of a legal compliance program that helps achieve compliance with applicable national, state, or local laws, statutes, and regulations, which may be supported by evidence such as: an employee handbook addressing policies regarding ethical and legal compliance issues and obligations; confidential employee interviews; signage as required by law to inform employees of labour rights, workplace requirements, and safety and environmental regulations; employee training to ensure consistent legal compliance; and professional licences necessary for regulatory compliance.

Indicator 11.1.3 Compliance Commitment: Demonstration of commitment to legal compliance through available *regulatory action information*.

Guidance: *Regulatory action information* is information related to compliance with government regulations such as permits, reports, and documentation of corrective actions, which may be required by a regulatory agency or court. It helps demonstrate a farmer or farm manager's commitment to legal compliance, which is essential to sustainability.

Conformance Evidence Examples: A description of *regulatory action information* (permitting applications and reports, permits, and licences) that demonstrates a commitment to legal compliance, which may be supported by evidence such as: regulatory permit applications and reports, permits, and licences (company or individual [e.g., pesticide applicator licence]); corrective action documents demonstrating required and voluntary efforts to remedy legal compliance issues; and signage to inform employees of labour rights, workplace requirements, and safety regulations.

Performance Measure 11.2 Legal Compliance Policies: *Standard User* shall take appropriate steps to comply with all applicable social laws at the Commonwealth, state, and local levels in the jurisdictions where the *Standard User* operates.

Indicator 11.2.1 Written Compliance Policy: A written *policy* demonstrating a commitment to comply with social laws, such as those addressing civil rights, equal employment opportunities, anti-discrimination and anti-harassment measures, workers' compensation and *living wage*, *Indigenous Peoples*' rights, workers' and communities' right to know, prevailing wages, workers' right to organise, and workplace health and safety.

Guidance: A written commitment communicates the importance of legal compliance to employees and a commitment to meet legal obligations and protect the health, safety, and welfare of others and the environment. It can help employees understand farming legal obligations so that they can help avoid costly regulatory enforcement actions. It can also contribute to efficient operations and safety, public relations, and employee retention. A written commitment statement helps ensure that farmers are committed to compliance with social laws and the social domain of sustainability.

Conformance Evidence Examples: A written *policy* demonstrating a compliance commitment to social laws, which may be supported by evidence such as: communication to ensure staff understand and implement the written *policy*; on-board training regarding written *policy*; an employee handbook; training attendance records; and a description of informal and formal supporting policies and/or practices used to conform to written *policy*.

Indicator 11.2.2 Consistency with International Labour Organization (ILO) Conventions: Demonstration of commitment to respect the principles concerning fundamental rights set out in the ILO Declaration on Fundamental Principles and Rights at Work.

Guidance: ILO Principles are an international set of principles aimed at protecting the freedom of association of employees and right to collective bargaining, the elimination of forced labour and workplace discrimination, and the abolition of child labour. Many standards require a commitment to ILO Principles. A commitment demonstrates respect for labour rights, a key social attribute of agriculture, and can bolster credibility and social licence with *supply chain* companies and other key stakeholders.

This Indicator applies only to the core conventions not fully covered by the existing Australian Fair Work framework as outlined in the Fair Work Act 2009 Part 2.4 - Enterprise agreements. If *Standard Users* meet all Australian Fair Work Framework requirements, they would be expected to meet the ILO convention requirements as Australia is a founding signatory to the ILO convention and has developed the Australian Fair Work Framework to meet the ILO requirements. This Indicator helps ensure that *Standard Users* respect widely respected principles concerning key labour rights set out in the ILO Declaration on Fundamental Principles and Rights at Work. Conformance evidence for Indicator 10.1.1 (*Equal Opportunity Employment*) may be applicable to this Indicator.

Conformance Evidence Examples: The demonstration of commitment to respect principles concerning fundamental rights set out in the ILO Declaration on Fundamental Principles and Rights at Work, which may be supported by evidence such as: an employee handbook, which addresses relevant ILO Principles; and employee training on ILO Principles and general labour law as it pertains to their responsibilities.

Indicator 11.2.3 Consistency with Lease Laws: Demonstration of commitment to respect the rights of *lessees* of leased lands with respect to the *covenant of quiet enjoyment* as determined by Commonwealth, state, and/or local laws, statutes, and regulations.

Guidance: The *covenant of quiet enjoyment* means that a *farmland lessee* has the right to enjoy their leased *farmland* without "substantial interference" from the *farmland* owner. It ensures that *farmland lessees* benefit from the full use and enjoyment of their leased *farmland*. This Indicator only applies to *Standard Users* who lease land to *farmland lessees*. Conformance evidence of Indicators in *Objective* 13 may be applicable to this Indicator.

Conformance Evidence Examples: A description of activities that demonstrate a commitment to respect the rights of *farmland lessees* of leased lands with respect to the *covenant of quiet enjoyment* as determined by Commonwealth, state, and/or local laws, statutes, and regulations, which may be supported by evidence such as: leases or lease templates that include language addressing right to quiet enjoyment; confidential employee interviews; communications with lessees; and employee training on lessee oversight and lease management.

Objective 12. Management Review and Continual Improvement

To promote *continual improvement* in the practice of sustainable agriculture by conducting management reviews and monitoring performance.

Background: *Continual improvement* is ongoing improvement of performance, products, services, or processes through incremental and breakthrough improvements. It applies a quality assurance method (e.g., the plan-do-check-act cycle). It leads to an agricultural system that adapts to a changing environment, improves performance and revenue, and reduces impacts. *Continual improvement* of *agricultural practice* requires management reviews and performance monitoring.

Performance Measure 12.1 Farm Review and Continual Improvement: *Standard Users* shall establish a management review system to examine findings and progress in implementing the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, improve resource-use efficiency of agricultural production, make appropriate improvements in *programs*, and inform their employees of changes.

Indicator 12.1.1 Performance Review: A system to review commitments, *programs*, procedures, and measures of progress; evaluate their effectiveness; and review progress toward achieving goals for employees, contractors, use of agricultural inputs, management of adverse and positive

environmental impacts, and agricultural production, including greater resource-use efficiency.

Guidance: A performance review system can improve communication and working relationships and provide useful feedback about job and operational performance, ultimately leading to improved farm performance and long-term viability. It also helps farmers and farm managers select timely financial, social, and environmental *objectives* that reduce costs and increase revenue and efficiency. Conformance evidence from Indicators 1.2.1 (Adapting to *Critical External Factors*), 12.1.2 (Monitoring Performance), 12.1.3 (Agricultural Innovation), and 12.1.4 (Annual Review and Improvement) may be applicable to this Indicator where it involves a review of operations. If a *Standard User* had *farmland lessees*, then Indicators 13.2.1 (*Verifiable Monitoring System*) and 13.2.2 (Improvement of the *Verifiable Monitoring System*) could contribute conformance evidence for this Indicator.

Conformance Evidence Examples: A description of the performance review system and how it: reviews commitments, operations, and progress; reviews progress toward achieving goals for employees, contractors, use of agricultural inputs, management of adverse and positive environmental impacts, and agricultural production, including greater resource-use efficiency; and evaluates effectiveness. This may be supported by evidence such as performance documents, communications, and confidential employee interviews.

Indicator 12.1.2 Monitoring Performance: A *program* for collecting, reviewing, and reporting information to management regarding progress in achieving the *LH Australia Standard – Pasture and Livestock Est. 2023 Objectives* and *Performance Measures*.

Guidance: This Indicator focuses on the *process* of monitoring progress toward achieving the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. This helps prepare *Standard Users* for the assurance assessment process by a *certification body*. This also helps ensure that *Standard Users* apply an organised system, process, or set of activities that helps a monitor performance toward achieving LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 Objectives and *Performance Measures*. *Performance Measure* 4.1 (*Integrated Pest Management*) and Indicators 2.1.3 (*Nutrient Management Program*) and 14.1.2b (Monitoring Animal Health) include monitoring to improve performance regarding production loss and use of agricultural inputs and so may provide conformance evidence to this Indicator.

Over time, conformance evidence for Indicator 12.1.1 (Performance Review) may serve as a performance monitoring *program*, which may be applicable to this Indicator.

Conformance Evidence Examples: A description of monitoring performance *program* for collecting, reviewing and reporting information to management regarding progress in achieving the *LH Australia Standard – Pasture and Livestock Est. 2023 Objectives* and *Performance Measures*, which may be supported by evidence such as: documents, SOPs, manuals, employee interviews, vendor invoices, and relevant farming metrics.

Indicator 12.1.3 Agricultural Innovation: A *process* for identifying and considering opportunities for achieving improved farming efficiency, deploying improved technologies, and using new markets for under-utilised *agricultural products*, new *plant* or *animal genetics*, and low-grade agricultural materials (e.g., bioenergy markets).

Guidance: Innovation entails improving business operations and processes to become more efficient and less impactful and increasing product value, profitability, and financial viability. Farmers and farm managers who routinely apply a purposeful series of formal or informal practices to identify innovative opportunities will discover practices and technologies for improving farming efficiency and new markets. Indicator 12.2.1 (Support for Agricultural Research) addresses the research aspect of R&D whereas this Indicator addresses the development part of R&D and implementation.

Conformance Evidence Examples: A description of a purposeful series of formal or informal practices or routines used to identify and consider opportunities for improving farming efficiency, applying improved technologies, and using new markets, which may be supported by evidence such as: employee attendance records for professional meetings; internal review of new technology and market opportunities; and CAPEX project development documents.

Indicator 12.1.4 Annual Review and Improvement: An annual review of progress by management and determination of changes and improvements necessary to continually improve agricultural efficiency and farm conformance to the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

Guidance: Periodic reviews are a key step in continual improvement, improving agricultural efficiency, and achieving the *objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. Two other Indicators may yield relevant conformance

evidence: Indicator 13.2.1b (*Verifiable Monitoring System*) focuses on improving the lessee performance with respect to the application of agriculture BMPs and Indicator 12.1.2 (Monitoring Performance Indicator) may provide information useful for annual reviews.

Conformance Evidence Examples: A description of an annual review of progress and the determination of changes to improve agricultural efficiency and conformance to the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, which may be supported by evidence such as: annual reviews, business plan documents, and/or CAPEX evaluations.

Performance Measure 12.2 Support for Sustainable Agriculture: *Standard Users* shall individually and/or through cooperative efforts support science-based agricultural research *programs* or partnerships or other efforts by associations to improve *soil health*, agricultural productivity, sustainable agriculture, and animal management.

Indicator 12.2.1 Support for Agricultural Research: Participation individually or collaboratively in agricultural research or other science-based *programs* that improve the knowledge and practice of sustainable agriculture including animal management. Examples could include, but are not limited to, test plots for seed, plant, or *animal production* trials or new practices; citizen science projects; demonstration days; research or partnerships to address agricultural productivity, *water quality*, community issues, animal health and welfare, or similar topics that broaden the understanding of the benefits and impacts of sustainable agriculture.

Guidance: Support for agricultural research can help generate information that leads to improvements in agricultural technologies, practices, and efficiencies and reductions in adverse impacts. Farmers and farm managers who support agricultural research often find it useful for discovering improved practices, technologies, and other new business opportunities and for advancing sustainable agriculture and animal management. This Indicator addresses the research aspect of R&D whereas Indicator 12.1.3 (Agricultural Innovation) addresses the development part of R&D.

Conformance Evidence Examples: A description of individual or collaborative participation in agricultural research or other science-based *programs* that improve the knowledge and practice of sustainable agriculture and animal management, including test plots for seed, plant, or *animal production* trials or new practices, which may be supported by evidence of participation in: citizen science projects; demonstration days; research to address agricultural and animal productivity and well-being, *water quality*, and community issues; and other research or science-based *programs* that improve the knowledge and practice of sustainable agriculture and animal management.

Objective 13. Lessee-Operated Operations

To promote the use of *agricultural best management practices* on pasture and *farmland* operated under *lessee* or *share-farming* arrangements to broaden the practice of sustainable agriculture and to promote the efficient use of agricultural inputs and the management of adverse environmental impacts.

Background: Objective 13 only applies to *Standard Users* with management responsibilities for pasture or *farmland* that is operated under *lessee* or *share-farming* arrangements or *Standard Users* that have animals that are agisted off the enrolled *pasture* or *farmland* to *agistors*. *Farmland* leasing is under-utilised in Australia compared to other countries such as the U.K. and the U.S. In the livestock industry, lease arrangements are more varied than a traditional cropping system and can include standard *farmland* leases where *lessees* also operate *farmland* along or as their own *farmland*, *share-farm* arrangements, or *agistment*. *Agistment* is common in Australia, particularly in times of drought or feed shortages. Most *farmland lessees* or *share-farmers* lease from landowners for longer than three years, though some operate using annual agreements. *Agistment* agreements are more likely to operate on an annual or seasonal basis. Long-term lease agreements allow *farmland lessees* and *share-farmers* to have greater interest in soil *conservation* and land management and landholders to have greater interest in *soil health* and other long-term values. Thus, leasing arrangements can foster sustainable agriculture practices among *lessees* and *share-farmers* and create opportunities to influence lessee and *share-farmer* farming practices on their lands. The activities of *farmland lessees*, *share-farmers*, and *agistors* may contribute to the performance of the *Standard User* for *Objectives* 2 through 6 and 14 and Indicators 7.2.3, 7.3.1, and 9.4.1, but the *Standard User* is responsible for conformance to these *Objectives*, *Performance Measures*, and Indicators. This Indicator helps ensure *Standard Users* promote agricultural and animal well-being BMPs on *farmland* operated by *farmland lessees* or *share-farmers* or where animals are managed by *agistors* and improve the practice of sustainable agriculture and animal management.

Performance Measure 13.1 Leased-Land and Share-Farm Management: *Standard Users* shall clearly define and implement strategies to ensure that lessee and *share-farm* activities adhere to the principles of sustainable agriculture.

Indicator 13.1.1 Leased-Land and Share-Farm Program: A *program* to help ensure that *pasture* and *farmland* management complies with the *agricultural best*

management practices and the *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023 as determined by a *Standard User*, *lessee*, and *share-farmer*.

Guidance: This Indicator helps ensure that *Standard Users* apply an organised system or set of activities to help ensure management of *lessees* and *share-farmers* conforms to the *agricultural BMPs* and the *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. Conformance to *agricultural BMPs* is determined jointly by the *Standard User* and *lessees* or *share-farmers*. Conformance evidence for other Indicators may be applicable to this Indicator: Indicators 13.1.2 (*Farmland* Lease and *Share-Farm* Agreements), 13.1.3 (Communicating Leased-Land *Objectives*), 13.1.4 (*Farmland Lessee* and *Share-Farmer* Social Responsibility Commitment), 13.2.1 (*Verifiable Monitoring System*), and 13.2.2 (Improvement of the *Verifiable Monitoring System*).

Conformance Evidence Examples: A description of an organised system or set of activities used to help ensure *farmland* management by *lessees* and *share-farmers* conforms to the *agricultural BMPs* and the *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, which may be supported by evidence such as: standard operating procedures (SOPs) for lease-land or farm oversight, evaluation, and communication; communications with *farmland lessees* and *share-farmers*; and annual review materials shared with *lessees* and *share-farmers*.

Indicator 13.1.2 Farmland Lease and Share-Farm Agreements: Written agreements *with lessees and share-farmers* demonstrating their commitment to applying *agricultural practices* and *animal husbandry practices* consistent with *best management practices*.

Guidance: This Indicator helps ensure that *Standard Users* clearly communicate their commitment to having *lessees* and *share-farmers* apply *agricultural practices* and *animal husbandry* practices consistent with *agricultural* and *animal well-being BMPs* and foster *lessee* and *share-farmer* commitment. Written agreements can be included in the lease or *share-farm* agreement or other types of agreements (e.g., Memorandum of Understanding, Letters of Intent, Memorandum of Agreement). Indicator 13.1.4 (*Farmland Lessee* and *Share-Farmer* Social Responsibility Commitment) is limited to fostering responsible operations, safe working environments, and legal compliance of *lessees* and *share-farmers*, whereas this Indicator is limited to fostering the *lessee* and *share-farmer* application of *agricultural practices* and *animal husbandry* practices consistent with *agricultural* and *animal-well-being BMPs*.

Conformance Evidence Examples: Written agreements with *lessees* and *share-farmers* demonstrating *farmland lessee* and *share-farmer* commitment to apply *agricultural practices* and *animal husbandry* practices consistent with *BMPs*, which may be supported by evidence such as: a description of how written agreements are communicated to *lessee* and *share-farmer* oversight staff; and employee training regarding *lessee* and *share-farmer* agreements including the *Standard User's* commitment to the application of *agricultural practices* and *animal husbandry* practices consistent with *agricultural* and *animal well-being BMPs*.

Indicator 13.1.3 Communicating Leased-Land Objectives: A written statement clearly defining sustainable agriculture goals of the *Standard User* for *pasture* and *farmland* that is shared with *lessees* and *share-farmers* and made available to appropriate stakeholders upon request.

Guidance: Clear communication with *lessees* and *share-farmers* is essential to achieving mutual goals. This Indicator helps ensure that *Standard Users* communicate their sustainable agriculture goals for *pasture* and *farmland* to *lessees* and *share-farmers*. Goals listed for Indicator 1.1.1 (Farmland Stewardship Commitment) should be consistent with goals listed for this Indicator.

Conformance Evidence Examples: A written statement clearly defining sustainable agriculture goals of the *Standard User* for *pasture* and *farmland* operated by *lessees* or *share-farmers*, which may be supported by evidence such as: indication that a written statement has been shared with *lessees* and *share-farmers* (e.g., shared in meetings with prospective and existing *lessees* and *share-farmers* or in routine communications to lessees and *share-farmers*); farm manager training regarding sustainable agriculture goals of the *Standard User* for *pasture* and *farmland* operated by *lessees* or *share-farmers*; and SOPs for sharing sustainable agriculture goals of the *Standard User* for *pasture* and *farmland* with prospective or existing *lessees*, *share-farmers*, and stakeholders.

Indicator 13.1.4 *Lessee* and *Share-Farmer* Social Responsibility Commitment: A written statement by *lessees* and *share-farmers* demonstrating their commitment to operate safely and responsibly; provide a safe working environment; and comply with applicable Commonwealth, state, and local laws, statutes, and regulations.

Guidance: This Indicator helps ensure that *lessees* and *share-farmers* clearly communicate their commitment to operate safely and responsibly; provide a safe working environment; and comply with applicable Commonwealth,

state, and local laws, statutes, and regulations. A written statement by *lessees* and *share-farmers* can be included in the lease or *share-farm* agreement or be a simple written statement. Indicator 13.1.2 (*Farmland Lease* and *Share-Farm* Agreements) intends to foster the application by *lessees* and *share-farmers* of *BMPs* whereas this Indicator intends to foster safe and responsible operations, safe working environments, and legal compliance.

Conformance Evidence Examples: Written Social Responsibility Commitment statement by *lessees* and *share-farmers* regarding safe and responsible operations, safe working environment, and legal compliance, which may be supported by evidence such as: farm manager training for supporting *lessees* and *share-farmers* and their preparation of a Social Responsibility Commitment statement; and educational materials for *lessees* and *share-farmers* about Social Responsibility Commitment statement.

Performance Measure 13.2 Leased-Land and Share-Farm Monitoring: *Standard Users* shall monitor *agricultural practices* used by *lessees* or *share-farmers* to ensure their consistency with *agricultural best management practices*.

Indicator 13.2.1 Verifiable Monitoring System: Use of a *verifiable monitoring system* with:

Indicator 13.2.1a: A *process* for monitoring the *agricultural practices* used by *lessees* and *share-farmers*.

Guidance: This part of the Indicator helps ensure that *Standard Users* apply a purposeful series of practices or routines (formal or informal) for monitoring the *agricultural practices* used by lessees and *share-farmers*. The monitoring process can be simple and monitor the *agricultural practices* used by *lessees* and *share-farmers* (see *Objectives* 2 through 6 and 14).

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) for monitoring the *agricultural practices* used by *lessees* and *share-farmers*, which may be supported by evidence such as: indications of leased-land or farm visits, written monitoring SOPs, and monitoring forms and records.

Indicator 13.2.1b: A *process* for evaluating the application of *agricultural practices* by *lessees* and *share-farmers* and identifying and communicating areas where *lessees* and *share-farmers* can improve their performance and achieve greater consistency with *agricultural best management practices* and the *Principles* and *Objectives* of the *LH Australia Standard – Pasture and Livestock Est. 2023*.

Guidance: This Indicator uses information from Indicator 13.2.1a to ensure that the *Standard User* actively influences the *lessee's* or share-farmer's practices. It prompts *Standard Users* to apply a purposeful series of practices or routines (formal or informal) (i.e., a process) to evaluate the *agricultural practices* of the *lessee* and *share-farmer* and then identify and communicate areas of improvement to the *lessee* and share-farmer. The key reference points for evaluating *lessee* and *share-farmer* practices are *agricultural BMPs* and the *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) used for evaluating the *agricultural practices* of the *lessee* and *share-farmer*, identifying and communicating areas of improvement to the *lessee* and *share-farmer*, which may be supported by evidence such as: annual performance reviews of *lessees* and *share-farmers*; annual face-to-face meetings; communications with *lessees* and *share-farmers* regarding performance; and annual or quarterly leased land or farm review forms and records.

Indicator 13.2.2 Improvement of the Verifiable Monitoring System: A *process* for using information from the *verifiable monitoring system* to identify areas of performance improvement for the *verifiable monitoring system*.

Guidance: The purpose of this Indicator is to ensure that *Standard Users* have a process to evaluate the *verifiable monitoring system* for *lessee* or *share-farmer* operated *pasture* and *farmland* and identify areas of improvement. This could lead to improvements that make the system more effective or provide better lessee and *share-farmer* oversight. Updates to the *verifiable monitoring system* are a key part of *continual improvement*.

Conformance Evidence Examples: A description of the series of practices or routines (formal or informal) for using information from the *verifiable monitoring system* to identify areas of performance improvement for the *verifiable monitoring system*, which may be supported by evidence such as: updates on using *agricultural BMPs* as an evaluation reference point; review of *lessee* and *share-farmer* performance goals; communications describing periodic performance review of the *verifiable monitoring system*; and a description of changes in the *verifiable monitoring system* (e.g., data collection, monitoring standard operating procedures, and standardised monitoring forms).

Performance Measure 13.3 Agistment Management and Monitoring: *Standard Users* shall clearly define and implement strategies to ensure that *agistment* activities adhere to the principles of animal well-being and are able to monitor these outcomes.

Indicator 13.3.1 Agistment Program: A *program* to help ensure that *animal* management complies with *animal well-being best management practices* and the relevant *Principles* and *Objectives* of the LH Farmland Management Australia Standard – Pasture and Livestock 2023 as determined by a *Standard User* and *agistor*.

Guidance: This Indicator helps ensure that *Standard Users* apply an organised system or set of activities to help ensure management of *agistors* conforms to the *animal well-being BMPs* and the relevant *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023. Conformance to *animal well-being BMPs* is determined jointly by the *Standard user* and *agistors*. Conformance evidence for other Indicators may be applicable to this Indicator: Indicators (13.3.2 *Agistment* Agreements), 13.3.3 (Communicating *Agistment Objectives*), and 13.3.4 (Animal Monitoring System).

Conformance Evidence Examples: A description of an organised system or set of activities used to help ensure animal management by *agistors* conforms to the *animal well-being BMPs* and the relevant *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, which may be supported by evidence such as: standard operating procedures (SOPs) for *agistor* and *animal* oversight, evaluation, and communication; communications with *agistors*; and annual review materials shared with *agistors*.

Indicator 13.3.2 *Agistment* Agreements: Written agreements with the *agistor* demonstrating their commitment to applying *animal husbandry* practices consistent with *best management practices*.

Guidance: This Indicator helps ensure that *Standard Users* clearly communicate their commitment to having *agistors* apply *animal husbandry* practices consistent with *animal well-being BMPs* and foster *agistor* commitment. Written agreements can be included in the *agistment* agreement or other types of agreements.

Conformance Evidence Examples: Written agreements with *agistors* demonstrating *agistor* commitment to apply *animal husbandry* practices consistent with *BMPs*, which may be supported by evidence such as: a description of how written agreements are communicated to *agistor* oversight staff; and employee training regarding *agistor* agreements including the *Standard User's* commitment to the application of *animal husbandry practices* consistent with *BMPs*.

Indicator 13.3.3 Communicating *Agistment Objectives*: A written statement clearly defining animal-wellbeing goals of the *Standard User* for *animals* that are *agisted* off the enrolled *pasture* or *farmland* and made available to *appropriate* stakeholders upon request.

Guidance: Clear communication with *agistors* is essential to achieving mutual goals. This Indicator helps ensure that *Standard Users* communicate their a*nimal well-being* goals for animals that are *agisted* off *pasture* or *farmland* to *agistors*. Goals listed for Indicator 1.1.1 (Farmland Stewardship Commitment) should include goals listed for this Indicator.

Conformance Evidence Examples: A written statement clearly defining *animal well-being* goals of the *Standard User* for animals that are *agisted* off *pasture* or *farmland* to *agistors*, which may be supported by evidence such as: indication that a written statement has been shared with *agistors* (e.g., shared in meetings with prospective and existing *agistors* or in routine communications to *agistors*); farm manager training; and SOPs.

Indicator 13.3.4 *Animal* Monitoring System: A *process* for monitoring and evaluating the application of *animal husbandry* practices by *agistors* and identifying and communicating areas where *agistors* can improve their performance and achieve greater consistency with *animal husbandry* best management practices and the relevant *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023.

Guidance: This Indicator helps ensure that *Standard Users* apply a purposeful series of practices or routines (formal or informal) for monitoring the *animal well-being practices* used by *agistors*, which can then be identified and communicated as areas for improvement to the agistor. The monitoring process can be simple and monitor the *animal husbandry practices* used by *agistors* (see *Objective* 14).

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) for monitoring the *animal well-being and husbandry practices* used by *agistors* and identifying and communicating areas of improvement to the *agistor*, which may be supported by evidence such as: indications of farm visits/animal *inspections*, *animal health* records, written monitoring SOPs, monitoring forms and records, face-to-face meetings, and communications with *agistors* regarding *animal health* and *husbandry*.

Objective 14. Animal Well-Being

To ensure people responsible for *animals* have the required competencies to perform their responsibilities in such a manner that ensures the basic *physiological* and *behavioural* needs of animals are met; with a goal of avoiding unnecessary animal stress and prioritising animal health and continual improvement in *animal husbandry practices*.

Background: Animal well-being and welfare are licence-to operate-factors that are increasingly a focus point with consumers. Animal well-being and welfare are based around the Five Freedoms principle, globally and within Australia. These five freedoms include freedom from hunger and thirst; freedom from discomfort; freedom from pain, injury, and disease; freedom to express natural behaviour; and freedom from fear and distress. Minimum requirements for producers for animal well-being and welfare are outlined in legislation and guidelines, which in Australia is the responsibility of the states and territories. Best practice animal management is seen to be in line with animal well-being and welfare requirements as many practices relating to appropriate animal care provide production benefits in addition to contributing to the animals' well-being.

Performance Measure 14.1 Animal Health Program: *Standard Users* have an up-to-date herd health *program* that ensures *appropriate* animal nutrition, *protection*, health monitoring, breeding, and health treatments and is *appropriate* to the region of the *Standard User*, including relevant guidelines and standards.

Indicator 14.1.1 Animal Care: A *process* to ensure *animals* have reasonable access to food and water to meet nutritional needs, health, and production goals and *animals* are protected from *external threats* such as extreme weather events, predator impact, and *biosecurity* hazards.

Guidance: This Indicator ensures that *Standard Users* apply an organised system or set of activities to help ensure *appropriate* care of animals so that they have reasonable access to food and water to meet their nutritional needs, and health and production goals. Animals should be protected from *external threats* such as extreme weather events, predator impact, and *biosecurity* hazards, through measures such as shelter in paddocks/housing, *pest* control or shelter predator *protection* during lambing, calving, or other events where animals are prone to attack, and farm *biosecurity* practices including animal health checks and quarantine.

Conformance Evidence Examples: A description of an organised system or set of activities used to help ensure *appropriate* animal care and application of *BMPs* and the relevant *Principles* and *Objectives* of the LH Australia Farmland Management Standard – Pasture and Livestock Est. 2023, which may be supported by evidence such as: standard operating procedures (SOPs) for animal care; paddock records; paddock maps showing watering points; herd health plans; *pest* control records and invoices; licences for *pest* control; invoices for shelter and/or shelterbelt installation; *biosecurity* practices; and staff training for the *Australian Animal Welfare Standards and Guidelines*.

Indicator 14.1.2 Animal Health Management: Management of animal health including:

Indicator 14.1.2a Preventative Health: A *process* for preventing *pests* and *disease* through *appropriate biosecurity*, *preventative health care*, and *animal management best management practices*.

Guidance: An important part of animal health management is *pest* and disease prevention, which is used to prevent problems related to *pests* and disease before they arise using proactive measures to prevent *pests* and disease arriving on-farm or developing in the herd. A whole of farm *biosecurity* plan forms part of an integrated *pest* and disease management *program* as the first line of defence to *minimise* the risk of introducing *pests* and disease. Preventative *animal health products* such as vaccines can also provide valuable assistance in preventing *pests* and disease from appearing and spreading on farm. Other *pest* and disease prevention measures can include managing grazing rotations and ensuring animals receive *appropriate* nutrition. Conformance evidence for the other three parts of this Indicator (14.1.2) may be also applicable to this Indicator.

Conformance Evidence Examples: A description and/or documentation of the set of informal or formal practices of preventative health measures taken which may include: whole farm *biosecurity* plans; quarantine programs; signage; animal health programs; vendor invoices for *animal health product* applications; paddock records; and invoices for animal feed.

Indicator 14.1.2b Monitoring Animal Health: A *program* for inspecting, collecting information, and reporting on animal health on a regular basis, in accordance with country or regional *animal welfare best practices and/or guidelines*, with a focus on *continuous improvement* to increase accuracy and efficiency of record keeping.

Guidance: Monitoring animal health for *pests* and disease is essential for detecting and applying timely control when *pests* are at low densities or disease is at an early stage. It can significantly reduce the impact on animal health and the required use of animal health protectants and their cost and avoid major production losses.

Conformance Evidence Examples: A description of animal health and *pest* and disease monitoring efforts and its contribution to reducing animal health impacts, which may be supported by: identification of threshold effects resulting in excessive animal health impact; *pest* and disease monitoring records; service provider invoices for monitoring; and *pest* and disease scouting credentials of farmer(s), farm manager(s), and/or vendors.

Indicator 14.1.2c Breeding for Animal Health and Production: A *process* for identifying and selecting *desirable traits* best suited to the local environment, which maintain or improve animal health outcomes as well as animal productivity.

Guidance: This indicator encourages *Standard Users* to utilise breed genetics to improve animal health and production outcomes. Breeding can assist with improving animal performance and possibly reducing the requirements for standard or *discretionary animal husbandry* practices such as *disbudding* through the introduction of polled genetics. Conformance evidence for Indicators 14.2.4 (Standard *Animal Husbandry* Practices) and 14.2.4a (*Discretionary Animal Husbandry* Practices) may be applicable to this Indicator.

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) of a breeding program, which may be supported by: breeding *programs*; service provider invoices for breeding *program* development or administration; and credentials of farmer(s), farm manager(s), and/or vendors.

Indicator 14.1.2d Application of *Animal Health Products*: A *process* for identifying and managing animal health conditions that require treatment using *animal health products* to alleviate or eliminate symptoms of ill health and/or improve lifetime *animal welfare*, with a focus on selecting the *lowest risk, most selective treatment option*.

Guidance: This Indicator ensures that the *Standard User* manages the administration of *animal health products* appropriately. *Animal health products* refer to products where the primary reason for application or administration is for animal health benefit. Conformance evidence for Indicators 14.1.3a (*Prohibited Use of Health Care Products*) and 14.1.3b (Withholding Periods) may be applicable to this Indicator.

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) used for evaluating *animal health* and determining if the administration of *animal health products* is required, which may be supported by evidence such as: animal health monitoring records; veterinarian invoices; invoices for *animal health products*; *animal health product* administration records.

Indicator 14.1.3 Use of *Animal Health Products*:

Indicator 14.1.3a *Prohibited Use of Health Care Products*: Prohibition of the use of *animal health products* and supplements to enhance animal growth or products that are not registered or permitted for use and/or trial. Note: this does not include *products* where the primary reason for administration is for animal health benefit.

Guidance: This Indicator outlines requirements for the *Standard User* regarding *animal health products* used for animal health purposes. *Animal health products* administered to animals in Australia need to be registered for use and/or trial by the Australian Pesticides and Veterinary Medicines Authority (APVMA). This Indicator prohibits the use of *animal health products* or hormone growth promotants for reasons other than animal health purposes unless approved by the APVMA. Note: this does not include *products* where the primary reason for administration is for animal health benefit, but may provide production benefits as a side effect.

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) used for evaluating *animal health product* suitability and ensuring *animal health products* are not administered unnecessarily, which may be supported by evidence such as: *animal health product* administration records, *animal health product* recommendation reports supplied by a suitably qualified individual such as a veterinarian or animal health consultant.

Indicator 14.1.3b Withholding Periods: Application of a *process* to ensure all withholding periods or *export slaughter interval*s are met following applications of inputs to pasture or animals, including animal protectants, *animal health products*, or feed treatments as per relevant legislation and guidelines to meet animal and human health objectives.

Guidance: Withholding periods and export slaughter internals are the minimum length of time that must elapse between the last application of *animal health* protectants, *animal health products*, feed treatments, chemicals, *fertiliser*, or other input and the grazing, slaughter, or export time. Withholding periods are often legally required to be met, while *export slaughter interval* is always legally required to be maintained and records maintained to verify. Conformance evidence for Indicators 2.1.5 (*Effluent* Application), 4.1.3 (Plant *Protection*), 4.1.4 (*Pest* Control Practices), 4.2.1 (Plant Protectant Management), and 14.1.3 (Use of *Animal Health Products*), may be applicable to this part of the Indicator.

Conformance Evidence Examples: A description of how withholding periods are managed and applications and administrations are recorded according to regulatory and label requirements, which may be supported by: *animal health product* recommendation reports; SDS sheets available to employees; *animal health product* application records; staff and/or vendor knowledge of label restriction.

Indicator 14.1.3c Storage of *Animal Health* Products: Storage of *animal health products* according to the label instructions and regulatory requirements and application of practices to protect employees, farm workers, public health, and the environment.

Guidance: *Animal health product* label instructions and regulatory requirements provide instructions for safe and effective storage of *animal health products* which helps human and environmental health. This includes consideration of *animal health product* storage practices and facilities. Conformance evidence for Indicator 6.1.1 (Waste Disposal) and Indicator 6.1.3 (Management of *Agricultural Chemicals* and Other Materials) may be applicable to this Indicator where it addresses *appropriate* disposal of *animal health products*. Conformance evidence for Indicator 10.2.1 (Personnel and Contract Worker Training) may be applicable to this Indicator where it addresses employee training for storage of *animal health products*.

Conformance Evidence Examples: A description of how *animal health products* are stored according to regulatory and label requirements, which may be supported by: visual evidence in the field of *appropriate animal health product* storage e.g. appropriately labelled refrigerators; label requirements available to employees; *animal health product* recommendation documents; and staff and/or vendor knowledge of label restriction.

Performance Measure 14.2 *Animal Husbandry*: *Standard Users* shall ensure best management practices are followed in accordance with country or region *animal welfare best practices and/or guidelines* for the industry in which it operates; underpinned by *continuous improvement* to reduce and/or eliminate *animal husbandry* methods that may compromise *animal welfare*.

Indicator 14.2.1 Animal Handling: Application of animal handling methods, including design of handling facilities and use of equipment, to *minimise* the occurrence of pain, stress, or injury to the animal and to improve handler safety.

Guidance: *Appropriate* animal handling should always *minimise* stress for the livestock and the operator, with low-stress animal handling shown to have productivity benefits in addition to positive animal health outcomes. Conformance evidence for Indicators 14.2.2 (Animal Transport), 14.2.4 (Standard *Animal Husbandry* Procedures), and 14.2.4a (*Discretionary Animal Husbandry* Practices) may be applicable to this Indicator.

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) for evaluating and improving animal handling practices, which may be supported by evidence such as: observations of animal handling practices; yard designs; and staff training records on the *Australian Animal Welfare Standards and Guidelines*.

Indicator 14.2.2 Animal Transport: Application of animal transport procedures that *minimise* stress on the animal and follow requirements of country or region *animal welfare best practices and/or guidelines* for the industry in which the *Standard User* operates, and a system to report concerns and/or adverse outcomes.

Guidance: This Indicator ensures the *Standard Users* undertake due diligence on transport providers to ensure that stress on the animal is *minimised* and they follow requirements of country or *regional animal welfare best practices and/or guidelines* for the industry in which the *Standard User* operates and have a system to report concerns and/or adverse outcomes. Conformance evidence for Indicators 14.1.1 (Animal Care) and 14.2.1 (Animal Handling), may be applicable to this Indicator.

Conformance Evidence Examples: A description of a purposeful series of practices or routines (formal or informal) for evaluating animal transport practices, providers, and transport outcomes, which may be supported by evidence such as: observations of animal transport practices; evaluations of animal transport outcomes; improvement register and staff and/or contractor training records on the *Australian Animal Welfare Standards and Guidelines*.

Indicator 14.2.3 End-of-Life Care: Administer safe, timely, and humane *euthanasia* to prevent animals' *suffering*, where treatment is not an option or has failed to improve the health of an animal.

Guidance: The purpose of this Indicator is to ensure that *Standard Users* have a process to administer safe, timely, and human *euthanasia* to prevent animals *suffering* where treatment is not feasible or has not improved the health of the animal. Humane *euthanasia* should be in line with the requirements of the *Australian Animal Welfare Standards and Guidelines* and state or regional legislation and guidelines.

Conformance Evidence Examples: A description of the *process* for determining if humane *euthanasia* is required, and for administering humane *euthanasia*, which may be supported by: decision-making frameworks; staff training and set delegations for humane *euthanasia*; staff and/or vendor licences for firearms or captive bolt.

Indicator 14.2.4 Standard Animal Husbandry Procedures: A *process* for implementing standard *animal husbandry* procedures (for *castration*, *tail docking* (sheep)) that result in benefits to lifetime *animal welfare*, better animal management, and/or improved *occupational* and animal health and safety.

Guidance: The purpose of this Indicator is to ensure that *Standard Users* have a process to implement standard *animal husbandry* practices such as *castration* or *tail docking (sheep)* that provide lifetime *animal welfare* benefits, better animal management, or improved *occupational* and animal health and safety.

Conformance Evidence Examples: A description of the series of practices or routines (formal or informal) for administrating standard *animal husbandry* practices, which may be supported by evidence such as: animal treatment records; *Property Identification Code (PIC)* representative training records for the *Australian Animal Welfare Standards and Guidelines*; staff training records; vendor invoices for services.

Indicator 14.2.4a Discretionary *Animal Husbandry* Practices: A process for implementing *discretionary animal husbandry* procedures, such as *mulesing*, *tail docking* (cattle), *dehorning*, *disbudding*, *calving induction*, and *spaying*, that result in benefits to lifetime *animal welfare*, better animal management, and/or improved *occupational* and animal health and safety in line with country or region *animal welfare best practice and/or guidelines* of the *Standard User.*

Guidance: The purpose of this Indicator is to ensure that *Standard Users* have a process to implement *discretionary animal husbandry* practices, such as *mulesing*, *tail docking* (cattle), *dehorning*, *disbudding*, *calving induction*, and *spaying*, that provide lifetime *animal welfare* benefits, better animal management, and/or improved *occupational* and animal health and safety. Pain relief should be administered where possible, particularly in the case of *dehorning* or *disbudding*. Conformance evidence for Indicator 14.1.3 (Use of *animal health products*) may be applicable to this Indicator.

Conformance Evidence Examples: A description of the series of practices or routines (formal or informal) for administrating *discretionary animal husbandry* practices, which may be supported by evidence such as: animal treatment records; *Property Identification Code (PIC)* representative training records for the *Australian Animal Welfare Standards and Guidelines*; staff training records; vendor invoices for services and/or analgesia.

Indicator 14.2.4b Continuous Improvement of Practices: A *process* for continuous improvement in use of *discretionary animal husbandry* procedures, including the adoption of pain relief and, where applicable, a *program* to move towards alternative practices/procedures to improve animal health and reduce pain.

Guidance: This Indicator is to ensure that the *Standard User* actively takes steps to continually improve their practices from Indicator 14.2.4a to include the adoption of pain relief, phase out particular practices, or incorporate the adoption of new or improved *animal husbandry* practices. Conformance evidence for Indicators 14.2.4 (Standard *Animal Husbandry* Practices), 14.1.3 (Use of *Animal Health Products*), and 14.2.4a (*Discretionary* Animal Health Practices), may be applicable to this Indicator.

Conformance Evidence Examples: A description of the series of practices or routines (formal or informal) for evaluating and improving *animal husbandry* practices, which may be supported by evidence such as: animal treatment records; *Property Identification Code (PIC)* representative training records for the *Australian Animal Welfare Standards and Guidelines*; staff training records; vendor invoices for services and/or analgesia.

Performance Measure 14.3 Calf-Rearing in Dairy: *Standard Users* shall follow requirements of country or region *animal welfare* best practices and/or guidelines to ensure calves in calf-rearing systems are adequately cared for.

Indicator 14.3.1 Monitoring and Managing Calf Feeding: *Programs* are to be undertaken to ensure calves receive appropriate nutrition and care to maintain or enhance calf health, including colostrum after birth.

Guidance: This Indicator helps ensure that *Standard Users* apply an organised system or set of activities to help ensure calves receive adequate colostrum within 12 hours of birth and are fed appropriately during their lifetime. Feeding equipment should be maintained and cleaned to *minimise* disease or infection build-up or spread. Conformance evidence for Indicator 14.3.2 (Calf Rearing System Management) may be applicable to this Indicator.

Conformance Evidence Examples: A description of an organised system or set of activities used to help ensure calves are fed according to BMPs and the country or region *animal welfare* standards and guidelines, which may be supported by evidence such as: records of animal *inspections*; vendor invoices for services; and staff training records.

Indicator 14.3.2 Calf Rearing System Management: A *process* for providing *appropriate* care to maintain and/or improve calf health in calf-rearing systems and protect them from *external threats* such as weather and predator impact, following requirements of *country or regional animal welfare best practices and/or guidelines*.

Guidance: This Indicator helps ensure that *Standard Users* apply an organised system or set of activities to help ensure calf health is maintained or improved and calves are protected from *external threats*. Conformance evidence for Indicator 14.3.1 (Monitoring and Managing Calf Feeding) may be applicable to this Indicator.

Conformance Evidence Examples: A description of an organised system or set of activities used to help ensure calves are reared according to *BMPs* and the country or *region animal welfare* standards and guidelines, which may be supported by evidence such as: records of animal *inspections*; calf rearing infrastructure including shelter and staff training records.

Indicator 14.3.3 Managing Surplus Dairy Calves: A *program* to demonstrate the adoption, or move towards the adoption, of practices designed to reduce the incidence of surplus dairy calves; otherwise healthy calves must not be *euthanised* on-farm.

Guidance: The management of surplus dairy calves is a key factor affecting the dairy industry and significant resources have been dedicated to identifying alternative pathways for the calves, aside from early-life slaughter. These alternatives must be economically viable and socially acceptable, and this Indicator encourages the adoption or move to adoption of these alternative options for surplus calves, including the use of sexed semen and/or insemination to beef sires to allow for dairy beef meat production. Otherwise healthy calves should not be *euthanised* on farm unless there are *extenuating circumstances* that risk the health of the calves.

Conformance Evidence Examples: A description of an organised system or set of activities used to help reduce the incidence of surplus dairy calves, which may be supported by evidence such as: standard operating procedures (SOPs), decision-making framework regarding surplus calves; communications regarding alternative options; invoices for sexed semen.

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Agistment: The movement of livestock from a property where there is little feed or water to another property where there are adequate supplies, generally in exchange for payment.

Agistor: The person who takes animals onto their land to graze in exchange for payment. Responsible for animal care when the animals are on their land.

Agricultural best management practices: A practice or combination of practices deemed to be best practice for meeting productivity, economic, soil, and environmental (sustainability) outcomes. These recommended practices are typically developed by any combination of industry Research and Development Corporations (RDCs), state government agencies, research institutions (such as universities and CSIRO), Natural Resource or Catchment Management Authorities, and farming systems groups.

Agricultural chemicals: Includes any substance or organism used to: destroy, stupefy, repel, inhibit the feeding of, or prevent *pests* on plants or other commodities; destroy a plant or modify its physiology; modify the effect of another *agricultural chemical* product; or attract a *pest* for the purpose of destroying it. This encompasses all herbicides, insecticides, and fungicides. Dairy cleansers for on-farm use, *crop* markers, insect repellents for use on humans, swimming pool disinfectants and algaecides, rodenticides, antifouling paints, preservatives, and household and home garden products for *pest* and weed control have been deemed to be *agricultural chemical* products. Some *pest* traps and barriers using chemical attractants also require registration (DAWE).

Animal health products: Includes pharmaceutical, immunobiological, and complementary products that can be administered to the animal, internally or externally, to manage a specific disease, condition, or circumstance. The use of such products results in a direct affecting on the animal. Supplements products where the primary administration is for animal health benefit or methane abatement.

Animal husbandry: Breeding and caring for farm animals. It includes day-to-day care, selective breeding, and the raising of livestock.

Agricultural land: Land that is used directly or indirectly in the production of *agricultural products* including *cropland*, grassland, *rangeland*, *pasture*, and other land on which *agricultural products* or livestock are produced and resource concerns may be addressed. It may include cropped woodland, marshes, incidental areas included in the agricultural operation, and other types of land used for the production of livestock (DAWE).

Agricultural practices: Specific methods including tillage system, planting, application practices for *fertilisers* and *crop* protectants, harvesting, and other cropping practices that are applied to grow and harvest annual or perennial *crops* for food, animal feed, forage, fibre, oilseed, and other *agricultural products*.

Agricultural products: *Crops* for food, animal feed, forage, fibre, oilseed, medicine, cultural practices, fermentation products, or fuel, livestock, and livestock products. These products include (but are not limited to) grains and flours, fresh and processed fruits and vegetables, meat and meat products, dairy products, natural fibres, sugar, and wine (ABS 2018).

Agricultural waste: Refers to *solid waste* that is generated by the rearing of animals or the production and harvest of *agricultural products*. This may include, but is not limited to, poultry and livestock manure and residual materials in liquid or solid form generated from the production and marketing of poultry, livestock, furbearing animals, other livestock products, and *crop residues* from row *crops* and permanent *crops* (DAWE).

Animal production: The change in energy requirements to achieve production metrics regarding animal growth, liveweight gain, pregnancy, lactation, and exercise.

Animal welfare: The state of an animal and how well it is coping with the conditions in which it lives.

Appropriate: Suitable or proper in the circumstances for a particular purpose. Considerations may include whether an activity will achieve the goal of an Indicator or *Performance Measure* in a specific setting, is practical and reasonable, and contributes to achieving regulatory compliance or obtaining social licence.

Appropriate deforestation cutoff date: A date (day, month, and year) specified by the most relevant biome- or geography-specific *deforestation* protocol(s) after which farmed land cannot have been *deforested*. An example of a relevant *deforestation* protocol could include, but is not limited to, the Canadian Boreal *Forest Conservation* Framework. Where no such protocol exists, *Standard Users* may determine their own *cutoff date* (refer to *cutoff date* definition).

Australian Animal Welfare Standards and Guidelines: A guiding document that aims to harmonise and streamline livestock welfare legislation in Australia, ensuring that it results in improved welfare outcomes and is practical for the industry. The documents cover producers' responsibilities and set out animals' needs in relation to feed and water; *risk* management in extreme *weather conditions*, natural disasters, disease, injury, and predation; facilities and equipment; handling and management/ husbandry; breeding management; and *humane killing*.

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Behavioural: Reactions made in response to stimuli.

Biosecurity: *Biosecurity* is the management of the *risks* to the economy, the environment, and the community of *pests* and diseases entering, emerging, establishing, or spreading. *Biosecurity* focuses on a hierarchy of controls, beginning with preventing the entry of *pests* into areas where they do not occur, monitoring for and eradicating those that do enter, and managing the negative impacts of those that become established (DAWE).

Biodiversity: The variety and abundance of life forms, *processes*, functions, and structures of plants, animals, and other living organisms, including the relative complexity of species, communities, gene pools, and ecosystems at spatial scales that range from local to regional to global (SFI). This includes soil organisms, pollinators, beneficial organisms, agricultural and grassland plants, and *wildlife*.

Carbon farming: The *process* of changing *agricultural practices* or land use to increase the amount of carbon stored in the soil and vegetation (sequestration) and to reduce greenhouse gas emissions from livestock, soil, or vegetation (avoidance) (Dept. Primary Industries and Regional Development, WA).

Castration: The removal or disruption of the function of the testes by excision, or by constriction and/or crushing of the testicular blood supply (using a rubber ring, tension band, or burdizzo clamp) or by dysfunction created by the cryptorchid method.

Certification body: An independent third party that is accredited and competent to conduct certifications to Leading Harvest Standards.

Climate change: Change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. It may be due to natural internal *processes* or external forcings or to persistent anthropogenic changes in the composition of the atmosphere or in land use (Intergovernmental Panel on *Climate Change*).

Climate-smart agriculture (practices): Practices and principles that promote sustainable increases in agricultural productivity (including sustainable intensification) while adapting to *climate change* and reducing greenhouse gas emissions (Food and Agriculture Organization of the United Nations).

Conservation: 1. *Protection* of plant and animal *habitat*. 2. Management of a renewable natural resource with the *objective* of sustaining its productivity in perpetuity while providing for human use compatible with sustainability of the resource.

Contract management company: A third-party company used by a *Standard User* to directly operate enrolled *farmland*.

Covenant of quiet enjoyment: A covenant that promises that the grantee or lessee of an estate in real property will be able to possess the premises in peace, without disturbance by hostile claimants. Quiet enjoyment is a right to the undisturbed use and enjoyment of real property by a lessee.

Cover cropping: *Cover crop* refers to a specific plant that is grown primarily for the benefit of soil. Establishing a *cover crop* during a fallow period in cropping rotations or between rows in orchards or vineyards can assist with managing *soil erosion*, improving *soil fertility*, water infiltration, and carbon, and controlling diseases and *pests*. Cover *crops* may include grasses, cereals, or legumes (Department of Primary Industries NSW).

Critically endangered: Under the EPBC Act, a flora species, fauna species, or ecological community that meets any of the following five criteria:

1. It has undergone, is suspected to have undergone, or is likely to undergo in the immediate future a very severe reduction in numbers (measured over the longer of 10 years or 3 generations) of 80 per cent or higher;
2. Its geographic distribution is precarious for the survival of the species and is very restricted: Extent of occurrence (EOO) < 100 km2 and area of occupancy (AOO) < 10 km2 and at least two of the following: Severely fragmented OR number of locations = 1; continuing decline observed, estimated, inferred, or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent, and/or quality of *habitat*; (iv) number of locations or subpopulations; (v) number of mature individuals; or extreme fluctuations in any of the previous (i) – (v).
3. The estimated number of mature individuals is very low (< 250) and one of (a) or (b): (a) evidence suggests that the number will continue to decline at a very high rate (25 per cent in 3 years or 1 generation – whichever is longer), (b) the number is likely to continue to decline and its geographic distribution is precarious for its survival, based on one of the following three conditions: (i) Number of mature individuals in each subpopulation ≤ 50, (ii) % of mature individuals in one subpopulation = 90 – 100%, or (iii) extreme fluctuations.
4. The estimated total number of mature individuals is extremely low (< 50).
5. The probability of its extinction in the wild is at least 50 per cent in the immediate future (in 10 years or 3 generations, whichever is longer – 100 years maximum) (DAWE, 2021).

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Critical external factor: Any off-farm attribute or factor that is materially and substantially relevant to the viability, long-term profitability, and sustainability of agricultural production of a management unit or farm. These may include economic factors (e.g., labour availability, regional market demand and opportunities, regulatory changes, *farmland lessee* availability, supplier availability, and technological advancements), environmental factors (e.g., *climate change*, regional availability of water, and other inputs), and social factors (e.g., social licence).

Crop: Plant species that are purposefully grown and/or harvested to satisfy human and livestock needs. They can include plants grown for food, feed, forage, fibre, decorative purposes, oilseed, medicine, cultural practices, fermentation products or fuel, including, but not limited to, field *crops*, hay or forage, fruits, vegetables, nuts, grains, and horticultural specialties. Cover *crops* and companion *crops* may be considered *crops* if purposefully grown.

Cropland: Land used primarily for the direct production of *agricultural products* for harvest, including, but not limited to, land in row *crops* or close-grown *crops*, forage *crops* that are in a rotation with row or close-grown *crops*, permanent hay land, horticultural *crops*, orchards, vineyards, cropped woodland, marshes, cranberry bogs, and other lands used to produce *crops*. It may include both irrigated and dryland areas.

Crop productivity: The inherent capacity of a particular site to produce a *crop,* often measured in volume or weight per hectare.

Crop and pasture/plant protectants: Also known as pesticides or plant *protection* products, *crop and pasture protectants* are used to keep *crops* and *pasture* healthy and abundant by protecting them against *pests* (insecticides), weeds (herbicides), and diseases (fungicides). Specific chemicals are labelled for very specific use and quantities. They can be synthetic (developed in laboratories and manufactured) or natural. Chemicals used in agriculture need to be approved by the Australian Pesticides and Veterinary Medicines Authority (APVMA). State and territory governments are responsible for controlling the use of *crop and pasture protectants* beyond the point of retail sale; in some states, more than one agency is involved.

Crop residues: Materials from growing *crops* left on the soil surface or partially incorporated into the surface layer of *cropland* to reduce *soil erosion*, conserve soil moisture, and improve soil tilth. These materials may include, but are not limited to, stalks, stubble, leaves, chipped branches and vines, woody biomass from orchard and vineyard redevelopment, and seed pods.

Cutoff date: Where no *appropriate deforestation cutoff date* exists, *Standard Users* may set their own *cutoff dates*. There may be different *cutoff dates* for indicators 7.3.2a and 7.3.2b, or for different regions. The determination of *cutoff dates* must be substantiated with evidence that can be justified as upholding the intent of the relevant indicator.

Deforestation: The conversion of *forest* to another land use or the long-term reduction of the tree canopy cover below the minimum 20 per cent threshold. It includes areas of *forest* converted to agriculture, *pasture*, water reservoirs, residential and industrial areas, and urban areas (Food and Agriculture Organization of the United Nations).

Dehorning: The removal of attached horns.

Desirable traits: Breeding for traits that are more suitable for production systems and are conducive to reducing *animal welfare* issues (e.g., temperament, polledness, structural and udder soundness, disease and *pest* resistance, heat tolerance, doing or “fleshing” ability, mothering ability, and calving ease).

Disbudding: Removal of an area of skin including the horn bud in a young animal prior to solid attachment of the horn bud to the skull.

Discretionary: Available for use by the judgment of the Standard User in consideration of a particular situation.

Effluent: *Effluent* from dairy sheds or other infrastructure such as yards, feedpads, and calving pads predominantly consisting of manure, urine, and washdown water. It may also include gravel, detergents, soil particles, cow hair, milk, string, paper, and wire and is high in nutrients, particularly nitrogen, phosphorus, and potassium.

Endangered: Under the EPBC Act, a flora species, fauna species, or ecological community that meets any of the following five criteria:

1. It has undergone, is suspected to have undergone, or is likely to undergo in the immediate future a severe reduction in numbers (measured over the longer of 10 years or 3 generations) of 50 per cent or higher;
2. Its geographic distribution is precarious for the survival of the species and is restricted: Extent of occurrence (EOO) < 5000 km2 and area of occupancy (AOO) < 500 km2 and at least two of the following: Severely fragmented OR number of locations ≤ 5; continuing decline observed, estimated, inferred, or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of *habitat*; (iv) number of locations or subpopulations; (v) number of mature individuals; or extreme fluctuations in any of the previous (i) – (v).

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3. The estimated number of mature individuals is low (< 2500) and one of (a) or (b): (a) evidence suggests that the number will continue to decline at a high rate (20 per cent in 5 years or 2 generations – whichever is longer) (b) the number is likely to continue to decline and its geographic distribution is precarious for its survival, based on one of the following three conditions: (i) Number of mature individuals in each subpopulation ≤ 250, (ii) % of mature individuals in one subpopulation = 95 – 100%, or (iii) extreme fluctuations.
4. The estimated total number of mature individuals is very low (< 250).
5. The probability of its extinction in the wild is at least 20 per cent in the near future (in 20 years or 5 generations, whichever is longer – 100 years maximum) (DAWE, 2021).

Equal Opportunity Employment: To provide employment where an employer agrees not to discriminate against any employee or job applicant because of race, colour, religion, national origin, sex, physical or mental disability, or age.

Euthanasia: Put to death humanely; a person conducting the *euthanasia* must take *reasonable action* to confirm the animal is dead.

Export slaughter interval: The minimum time that must elapse between veterinary chemical administration to livestock and their slaughter for export (APVMA, 2021).

External threats: Including extremes of *weather conditions*, drought, fires, floods, disease, injury, and predation.

Farmland: Land that includes native vegetation and modified *pasture*s that are grazed, cropping land, horticulture, and sheep-wheat that are part of an agricultural operation (ABARES Agricultural Snapshot, 2021).

Farmland lessee: A lessee of *farmland* where the lease is managed by a *Standard User.*

Farm labour contractor: A person or business who charges a fee to recruit, transport, supply, or hire seasonal farmworkers (including migrant/backpacker labourers) to work for or under the direction, supervision, or control of Standard User or a *contract management company* under the oversight of a Standard User (DAWE).

Fertiliser: *Fertiliser* is defined as a substance that is manufactured, represented, supplied, or used as a means of directly or indirectly fertilising the soil; supplying nutrients to plants; or conditioning the soil by altering the chemical, physical, or biological composition of the soil. (*Fertiliser* Australia, National Code of Practice 2018) State Governments have developed regulations to manage the description and safety of fertilisers. *Fertiliser* Australia has developed a National COP for *Fertiliser* Description and Labelling (2018).

Forest: An area, incorporating all living and non-living components, that is dominated by trees having usually a single stem and a mature or potentially mature stand height exceeding 2 metres and with existing or potential crown cover of overstorey strata about equal to or greater than 20 percent. It encompasses woodland (ABARES).

Gender-equitable: The fair treatment for men and women according to their respective needs. This may include equal treatment or treatment that is different, but which is considered equivalent in terms of rights, benefits, obligations, and opportunities (UNESCO). Equivalency between men and women does not mean that women and men have to become the same, but that their rights, responsibilities, and opportunities will not depend on whether they were born male or female.

Geoheritage: Outstanding examples of geology and the geological *processes* that formed the Earth's surface, as well as the plants and animals that have lived on it, can be seen at all scales in landforms and natural rock out*crops*, river banks, sea cliffs, and shore platforms and in road cuttings, mines, quarries, and other excavations. *Geoheritage* sites are protected under the EPBC Act as sites of World or National Heritage value. Regional sites are protected under state and territory legislation (Geological Society Australia).

Grasslands: *Grasslands* are natural ecological communities dominated by grasses and with no or only sparse tree or shrub cover. They are dominated by a range of grass species but contain a diversity of other herbs. *Grasslands* are among the most species-rich plant communities in Australia. Secondary or derived *grasslands* are those in which the woody species (trees and/or shrubs) have been removed, leaving only the native herbaceous ground layer (FOG, 2021).

Greenhouse gases: Gases in the atmosphere that can absorb infrared radiation from the sun, trapping outgoing energy in the form of heat in the atmosphere. Key *greenhouse gases* include carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4), sulphur hexafluoride (SF6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs) (*Climate Change* in Australia, CSIRO).

Groundwater: Water occurring naturally below ground level (whether in an aquifer or otherwise). In Australia, *groundwater* is strongly connected to *surface water* (Water Act 2007, Geoscience Australia).

Groundwater depletion: A long-term decline in levels of *groundwater*, which can be caused by a combination of increased human usage (of ground and connected *surface water*) and changes to recharge (e.g. rainfall and human usage) (DAWE).

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Habitat: A place, natural or otherwise (including climate, food, cover, and water), where an individual or population of animal species or plant species naturally or normally lives and develops. In ecology, the term *habitat* summarises the array of resources, physical and biotic factors that are present in an area, that support the survival and reproduction of a particular species.

Habitat conversion: A fundamental change in a natural *habitat*, usually caused by human activity. *Habitat* loss is a consequence of human activities such as agriculture, urbanization, *deforestation*, resource extraction, alteration of the sea floor due to trawling (fishing), or the release of pollutants. *Habitat* loss can also occur due to environmental changes (University of California Museum of Paleontology). In agriculture, *habitat conversion* for can occur as a result of a number of activities (e.g. application of *fertilisers* to native areas; favouring exotic species; draining of *wetlands*; *inappropriate* fire regimes; application of herbicides to poison broadleaf plants and trees; or deliberate clearing or ploughing of areas of *habitat*).

Habitat fragmentation: *Habitat fragmentation* is defined as the *process* during which a large expanse of *habitat* is transformed into a number of smaller patches of smaller total area isolated from each other by a matrix of *habitat*s unlike the original (Fahrig, 2003).

Hazardous waste: Waste that is dangerous or potentially harmful to human health or the environment, which can be liquid, solid, gas, or sludge. It can be discarded commercial products, like leftover cleaning fluids or *crop* protectants, or the byproducts of manufacturing processes (Department of Agriculture, Water, and the Environment).

Humane killing: Must ensure that the animal is killed at the first reasonable opportunity.

Indigenous Peoples: People defined in international or national legislation as having a set of specific rights based on their historical ties to a particular territory and their cultural or historical distinctiveness from other populations that are often politically dominant. More specifically, Australia is home to two very distinct Indigenous cultural groups: Aboriginal and Torres Strait Islander Peoples (AIATSIS, 2021).

Indigenous Heritage: *Indigenous heritage* places are landscapes, sites, and areas that are particularly important to Indigenous people as part of their customary law, developing traditions, history, and/or current practices. Some *Indigenous heritage* places are protected under national law (EPBC Act, as World or National Heritage sites), others are protected under state or territory legislation. (DAWE).

Indigenous Protected Area: An area of Indigenous-owned land or sea where traditional Indigenous owners have entered into an agreement with the Australian Government to promote *biodiversity* and cultural resource *conservation* (DAWE).

Inspections: Careful examination.

Integrated Pest Management: The control of *pests*, including insects, at tolerable levels below economic thresholds, by the strategic use of biological, cultural, and chemical practices. IPM seeks to use natural predators or parasites to control *pests*, using selective pesticides for backup only when *pests* are unable to be controlled by natural means (Farm *Biosecurity* Australia). *Appropriate* techniques may include, but are not limited to, enhancement of natural enemies, planting pest-resistant *crops*, adaption of cultural management, and judicious use of *crop* protectants.

Land use conversion: A change in the extent or composition of an ecosystem or *habitat* where there is a shift from one land use to another that is considered significant or irreversible.

Listed Threatened Species and Ecological Communities: The EPBC Act provides for the listing of native, nationally *threatened species* and ecological communities, native migratory species, and marine species. An *MNES*, *threatened species* (flora and fauna) are listed in any one of the following categories: extinct, extinct in the wild, *critically endangered*, *endangered*, *vulnerable*, or *conservation* dependent. Threatened ecological communities are listed under three categories: *critically endangered*, *endangered*, or *vulnerable*. There are also listings of *threatened species* and communities under state environmental legislation. The listing categories and definitions may not align with EPBC listings. Compliance with both state and national environmental laws is required.

Living wage: The minimum income necessary for an employee or contract worker to meet their basic needs, which can include food, child care, health insurance, housing, transportation, and other basic necessities (e.g. clothing, personal care items, etc.). A *living wage* is set higher than a minimum wage and may be "pegged" to (fixed as a percentage of) some other measure of living standards, such as average weekly earnings. This ensures that the *living wage* holds its relative value over time. While the minimum wage sets a bare minimum, the *living wage* aspires to be a socially acceptable minimum. Typically, this is seen as a level that keeps workers out of poverty. Australia's national minimum wage is set each year by an expert panel of the Fair Work Commission (FWC).

Low-emission technologies: Advanced technologies used to significantly reduce greenhouse gas emissions levels, airborne pollutants, and other adverse environmental impacts. This can include high-efficiency equipment and technology using *renewable energy* (e.g. hybrid vehicles, solar energy).

Lowest risk, most selective treatment options: A treatment used to control site-specific *pests* that *minimises* impact on non-target organisms and people and has the least overall impact while meeting management *objectives*. Considerations

may include the target pest, the degree of control needed, cost, the season and timing of application, rates and methods, terrain, *crop* conditions, and the presence or absence of water bodies.

Matter of National Environmental Significance (MNES): There are nine *MNES* protected under the EPBC Act: world heritage properties; *national heritage places*; *wetlands* of international importance (listed under the Ramsar Convention); *listed threatened species and ecological communities*; migratory species protected under international agreements; commonwealth marine areas; Great Barrier Reef Marine Park; nuclear actions (including uranium mines); and water resource, in relation to coal seam gas development and large coal mining development.

Minimise: To do only that which is necessary and *appropriate* to accomplish the task or *objective* described.

Mulesing: The removal of skin from the breech and/or tail of a sheep using *mulesing* shears.

National Heritage Place: An *MNES*, *National Heritage Places* are natural, historic, and Indigenous places of outstanding significance to the nation. Once a heritage place is listed under the EPBC Act, special requirements come into force to ensure that the values of the place will be protected and conserved for future generations. The EPBC Act provides for the preparation of management plans that set out the significant heritage aspects of the place and how the values of the site will be managed.

Native habitats: Areas where a native species naturally occurs and that have the living and nonliving environmental conditions necessary for survival, including areas for feeding, shelter, *protection*, and/or reproduction.

Natural communities: An assemblage of indigenous interacting plant and animal species and their common environment, recurring in specific ecological areas across the landscape. There are specific definitions of *natural communities* defined principally by the dominant vegetation. Some of these are defined in this glossary and include forests, *woodlands*, *grasslands*, *rangelands*, and *wetlands*. They also include non-*forest* vegetation such as heathland and shrubland.

Natural forest: *Forest* composed of indigenous trees and not classified as a planted forest.

Nutrient management: To manage the amount, source, placement, form, and timing of the application of nutrients and *soil amendments* to ensure adequate *soil fertility* for plant production and to *minimise* the potential for environmental degradation, particularly *water quality* impairment and unnecessary air emissions. In Australia, the Fertcare *program* has been established to ensure that *fertiliser* suppliers are *appropriately* skilled to provide sound advice, minimising environmental and food safety *risks* and optimising productivity (*Fertiliser* Australia).

Objective: A fundamental goal.

Occupational: Relating to a job or profession.

Overgrazing: The regrazing of plants before they are allowed sufficient time for recovery and the grazing of plants for prolonged periods that exceeds the carrying capacity of the pasture.

Pasture: (1) Grazing lands comprised of introduced or domesticated native forage species that are used primarily for the production of livestock. They receive periodic renovation and/ or cultural treatments such as tillage, fertilisation, slashing, and weed control, and may be irrigated. They are not in rotation with *crops*. (2) A grazing area enclosed and separated from other areas by fencing or other barriers (paddocks); the management unit for grazing land. (3) Forage plants used as food for grazing animals. (4) Any area devoted to the production of forage, native or introduced, and harvested by grazing.

Performance measure: A means of judging whether an *objective* has been fulfilled.

Pests: A *pest* is an organism living and growing where they are not wanted, which can cause damage to plants, humans, structures, and other creatures, including *crops* that are grown for food. *Pests* can include weeds, plant pathogens (certain fungi, bacteria, and viruses), rodents, and nematodes in addition to plant-feeding insects and mites. *Pests* include vertebrate animals (both native and introduced) where they negatively impact the environment or *agricultural land*s. *Pest* animals and weeds not only reduce agricultural productivity, they can also cause damage to the environment and natural resources (DAWE).

Policy: A written statement of commitment to meet an *objective* or to implement a defined *program* or plan to achieve an *objective* or outcome.

Process: A series of purposeful actions or operations that leads to a sought-after end or outcome. This can include a set or sequence of informal or formal practices, procedures, or routines.

Professional work environment: A non-discriminatory workplace environment free from harassment and composed of competent, respectful, mature, and accountable employees working toward a common goal.

Program: An organised system, *process*, or set of activities to achieve an *objective*, *performance measure*, or indicator.

Property Identification Code (PIC): An eight-letter/digit code that defines each property spatially and is the basis of Australia's food safety and traceability *programs*.

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Protection: Maintenance of the status or integrity, over the long term, of identified attributes or values including management where *appropriate*, considering past disturbance, land use, and *pest risk* when determining *appropriate conservation* strategies.

Rangeland: The *rangelands* are those areas where the rainfall is too low or unreliable and the soils too poor to support regular cropping. They cover about 80 per cent of Australia and include savannas, *woodlands*, shrublands, *grasslands*, and *wetlands*. The *rangelands* are largely undisturbed or natural bioregions within Western Australia, South Australia, New South Wales, Queensland, and the Northern Territory (DAWE, 2021).

Rare: A category for listing of *threatened species* used in some states of Australia (e.g. SA, Tasmania). The *rare* category is not recognised in the IUCN structure and criteria have been created for a *rare* category to be utilised. The *rare* category criteria are consistent with current IUCN definitions for the 'near threatened' category and encompass species in decline and those that have a limited presence and may be at-*risk* (NRE, Tas and DEW, SA).

Reasonable action: Take all practical measures to prevent or diminish further damage.

Regulatory action information: Information related to compliance with government regulations such as permits, reports, and corrective action documentation.

Renewable energy: Energy from sources that are naturally replenishing but flow-limited. It is virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time, including wood, waste, geothermal, wind, photovoltaic, tidal and wave, hydropower, and solar thermal energy.

Riparian zone: A transition zone, it is any land which adjoins, directly influences, or is influenced by a body of water (ARRC, 2021).

Risk: Uncertainty about the effects/implications of an activity.

Runoff: Water from precipitation or irrigation on an area that does not infiltrate, but instead is discharged from the area. The water that flows off the surface of the land is called surface *runoff*. Water that enters the soil before reaching *surface water* is called *groundwater runoff* or seepage flow from *groundwater*.

Share-farming: An arrangement whereby two parties (ordinarily both farmers) bring certain elements together to farm a property to generate profits which are then shared between the parties (Coulter Legal, 2023).

Soil amendments: Materials that typically are added to soil, plants, or the plant-growth environment to enhance plant growth. These include *fertilisers*, compost, sludge, manure, microbes, additives, materials improving soil condition (i.e., adjusting the pH of the soil, improving soil structure and texture, aeration adjustment, and moisture *conservation* among others), materials controlling or suppressing *crop pests*, and others or combinations thereof. Inorganic *soil amendments* are composed of synthetic chemicals and/or minerals, while organic *soil amendments* are often composed of organic matter from plant/animal sources and/or microbes, and may include materials such as manure, earthworm castings, soil, sphagnum peat, grass clippings, straw, wood chips, various composts, seaweed, guano, or naturally occurring mineral deposits, and living microorganisms, among others.

Soil erosion: A *process* by which soil and rock are removed by water and wind and then transported and deposited in other locations.

Soil fertility: The quality that enables soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favourable.

Soil health: The capacity of soil to function as a vital living ecosystem that sustains *crops*, soil organisms, and humans. Its maintenance includes consideration of the physical, chemical, and biological characteristics of soil.

Soil loss: *Soil erosion* where the removal of topsoil occurs faster than the soil-forming *processes* can replace it due to natural, animal, and human activity.

Soil mismanagement: Agricultural operations, practices, and/or treatments that result in the decline of *soil health* and *soil productivity*, including *soil loss*.

Soil productivity: The capability of soil for producing a specified plant or sequence of plants under specific management.

Solid waste: Any solid, semisolid, liquid, or contained gaseous materials discarded from agricultural operations. It includes garbage, construction debris, commercial refuse, sludge from water supply or waste treatment plants, and other discarded materials.

Special sites: Sites that include *unique geological features* or *unique culturally important features* that are recognised regionally or nationally or by *Indigenous Peoples*.

Standard User: An organisation certified or committed to being certified by an accredited *certification body* to be in conformance with the Leading Harvest Australia Standard.

Suffering: The state of severe distress, disease, or injury.

Supply chain: The sequence of *processes* involved in the production and distribution of a commodity to a consumer.

Surface water: Water that is on the Earth's surface, such as in a stream, river, lake, or reservoir.

Tail docking: The removal of a portion of an animal's tail, or actions that cause the loss of a section of the tail. It does not include any trimming of the switch hairs (the bush) (cattle).

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Threatened species: Species (flora and fauna) that are at *risk* of extinction due to various threats, including loss, degradation, and fragmentation of *habitat*, invasive species, altered fire regimes, unsustainable use and management of natural resources, changes to the aquatic environment and water flows, and *climate change* (DAWE, 2021). *Threatened species* may be listed under Commonwealth (EPBC Act) and/or state/territory legislation.

Unique culturally important features: Features having significance for or being representative of human activities or beliefs. Examples could include, but are not limited to, documented areas such as archaeological sites, unusual historical sites, cemeteries, and sacred sites. Typically these sites have been documented in databases established by state governments or the federal government and have been significant historically. In Australia, these include *National Heritage Places*, *Indigenous Heritage* sites and *Indigenous Protected areas*.

Unique geological features: Naturally occurring physical features on Earth's surface, which are unique or locally *rare*, typically limited in extent (0.1 to 100 acres), often less than 10 acres. Examples could include, but are not limited to, exceptional waterfalls, stream or river gorges, canyons, arches, caves or mine entrances, out*crops* of fossil beds or *rare* mineral deposits, bluffs, buttes, and cliffs. In Australia, these include World Heritage Properties and *geoheritage* sites.

Verifiable monitoring system: A system capable of being audited by a third party that includes: 1. a means to characterise *farmland* under the authority of a *Standard User*, 2. a *process* to identify and use sources of available data regarding the use of *agricultural best management practices*, and 3. a method to assess *farmland lessee* performance.

Vulnerable: Under the EPBC Act, a flora species, fauna species, or ecological community that meets any of the following five criteria:

1. It has undergone, is suspected to have undergone, or is likely to undergo in the immediate future a substantial reduction in numbers (measured over the longer of 10 years or 3 generations) of 30 per cent or higher;
2. Its geographic distribution is precarious for the survival of the species and is limited: Extent of occurrence (EOO) < 20,000 km2 and area of occupancy (AOO) < 2,000 km2 and at least two of the following: Severely fragmented OR number of locations ≤ 10; continuing decline observed, estimated, inferred, or projected in any of: (i) extent of occurrence; (ii) area of occupancy; (iii) area, extent and/or quality of *habitat*; (iv) number of locations or subpopulations; (v) number of mature individuals; or extreme fluctuations in any of the previous (i) – (v).
3. The estimated number of mature individuals is limited (< 10,500) and one of (a) or (b): (a) evidence suggests that the number will continue to decline at a substantial rate (10 per cent in 10 years or 3 generations – whichever is longer), (b) the number is likely to continue to decline and its geographic distribution is precarious for its survival, based on one of the following three conditions: (i) Number of mature individuals in each subpopulation < 1000, (ii) % of mature individuals in one subpopulation = 100%, or (iii) extreme fluctuations.
4. The estimated total number of mature individuals is low (< 1000).
5. The probability of its extinction in the wild is at least 10 per cent in the medium-term future (in 100 years) (DAWE, 2021).

Water quality: The chemical, physical, and biological characteristics of water, with respect to its suitability for a particular purpose (e.g., drinking water for humans or livestock, commercial and industrial use, aquatic species *habitat*, and *crop* irrigation) (Water Quality Australia).

Water regulatory agency: A local, state, or territory government agency with statutory authority to exercise regulatory or supervisory oversight in the use and/or extraction of *groundwater*, with coordination provided by the Natural Resource Management Ministerial Council (NRMMC).

Weather conditions: The forecast of weather (temperature, humidity, precipitation, wind, cloudiness, and atmospheric pressure) and severe weather warnings (thunderstorms, tornadoes, hurricanes, winter storms, snow, droughts) to include observations, flood information, seas forecasts, and climate information.

Wetlands: *Wetlands* are areas of permanent or periodic/intermittent inundation, with water that is static or flowing fresh, brackish, or salt, including areas of marine water, the depth of which at low tide does not exceed 6 metres. To be a wetland the area must have one or more of the following attributes: (1) at least periodically the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle, or (2) the substratum is predominantly undrained soils that are saturated, flooded, or ponded long enough to develop anaerobic conditions in the upper layers, or (3) the substratum is not soil and is saturated with water, or covered by water at some time. This includes areas those areas shown as a river, stream, creek, swamp, lake, marsh, waterhole, wetland, billabong, pool, or spring on topographic maps or local or regional maps, areas containing recognised hydrophytes, saturated parts of the *riparian zone*, artificial *wetlands* such as farm dams, water bodies not connected to rivers, or flowing water such as billabongs and rock pools (DES, QLD 2015).

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Wildlife: Aquatic (freshwater), marine and terrestrial fauna.

Woodlands: Ecosystems that contain widely spaced trees, fewer and more scattered trees than in forests, the crowns of which do not touch and of 20 to 50 percent crown cover. In temperate Australia, *woodlands* are mainly dominated by Eucalyptus species. Temperate *woodlands* occur predominantly in regions with a mean annual rainfall of between 250 and 800mm, forming a transitional zone between the higher rainfall forested margins of the continent and the shrub and *grasslands* of the arid interior (ABARES, 2021).

World Heritage Property: An *MNES*, World Heritage sites are places that are important to and belong to everyone, irrespective of where they are located. They have universal value that transcends the value they hold for a particular nation. A declared *World Heritage property* is an area that has been included in the World Heritage List or declared by the Minister to be a *World Heritage property*. Once a heritage place is listed under the EPBC Act, special requirements come into force to ensure that the values of the place will be protected and conserved for future generations. The EPBC Act provides for the preparation of management plans that set out the significant heritage aspects of the place and how the values of the site will be managed (DAWE, 2021).

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